

AUG 12 1938

# THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS



**Los Angeles Bureau of Power and Light**

MARTIN G. GLAESER

**County Zoning in Wisconsin**

W. A. ROWLANDS

**Regulation of Contract Motor Carriers**

JOHN J. GEORGE

**The Property Tax and Forest Land Development**

WADE DE VRIES

**Municipally Owned Generating Plants**

PAUL JEROME RAVER

**The Minor Street**

HERBERT S. SWAN

**The Value of the Service**

ELEANOR HEYMAN

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# THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS



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### PUBLISHED QUARTERLY BY THE INSTITUTE FOR ECONOMIC RESEARCH

Publication offices: 121 South Pinckney Street, Madison, Wis.

Editorial and General offices: The Institute for Economic Research, 337 East Chicago Ave., Chicago, Ill.

The contents of the *Journal* are indexed in the *Industrial Arts Index*.

Entered as second-class matter, January 5, 1925, at the post-office at Madison, Wis., under the Act of Congress of March 3, 1879. Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized October 12, 1922. Printed in the United States of America.

**Subscription Rates:** \$5 a year; \$1.25 a copy. Remittances may be made by personal checks, drafts, post-office or express money orders, payable to the Institute for Economic Research.

Agents of the *Journal* in Great Britain, B. F. Stevens & Brown, Ltd.,

28-30 Little Russell St., British Museum, London, W.C. 1.

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Advertising rates furnished on application.

## THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS

Published by the Institute for Economic Research

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# THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS

AUGUST  
1933

VOLUME IX  
NUMBER 3



## The Los Angeles Bureau of Power and Light: A Critical Summary\*

By MARTIN G. GLAESER

IN common with most electric utilities the Los Angeles Bureau of Power and Light has enjoyed unprecedented prosperity. This final article, along with the preceding ones, makes no pretense of being an exhaustive and definitive treatment of the financial history of this concern. A more elaborate discussion will be contained in a later and different type of publication. But it seems advisable at this time to summarize the more important accomplishments and to discuss critically their bearing upon the issue whether public ownership and operation, in this instance at least, has anything to commend it.

The 15 years that lie between 1917 and 1932 have seen the plant and equipment account grow from \$7,500,000 to \$74,100,000; the gross annual revenues have expanded from \$300,000 to \$15,-

400,000; the total sales in kw. hrs. have increased from 178,600,000 to 648,063,561; and the number of customers has grown from 1,715 to 232,139. As shown in a preceding article, after this municipal enterprise had outgrown its swaddling clothes the net earning capacity based upon ledger values has never been less than 7% upon the invested capital. Because of an ultra-conservative financial structure, coupled with highly favorable interest rates, the rate of return upon the equity of the city has never been less than 12% and has usually been substantially above this figure. It is certain that were this enterprise a private corporation and as conservatively capitalized the equity securities would be commanding substantial premiums in the security markets. Certainly, such private management in its communications to stockholders would

\* *Editorial Note:* This is the last of a series of articles by Professor Glaeser on the Los Angeles Bureau of Power and Light. Previous installments have appeared in the *Journal* under the following subtitles: "A Case Study of Public Ownership," November, 1930, (Vol. vi),

pp. 343-53; "Development of Market Area," August, 1931, (Vol. vii), pp. 249-54; "Financial Results of Operation," May, 1932, (Vol. viii), pp. 131-6. Tables are numbered consecutively with those in the preceding articles.

point with pride to a growing equity which by 1932 had reached \$39,659,060.55, or 45.4% of the ledger values of total assets of \$87,442,359.00. The bonded indebtedness is only \$36,534,000.00 and is subject to steady amortization. Against fixed assets of \$74,106,667.52 a reserve for depreciation has been accumulated equal to \$9,371,254.82, or 12.6%. From the point of view of profitability to owners and security of investment to creditors, the financial annals of this enterprise leave little to be desired.

It has often been charged that the financial and other results of operation by municipal enterprises cannot be measured because the accounts and records are unreliable and because their operations are not subject to the control of an outside and impartial regulating authority. In this instance, it can be stated with confidence that, despite the fact that publicly owned enterprises are not subject to the jurisdiction of the California Railroad Commission, a candid attempt has been made to keep the accounts and records in accordance with the standards laid down by this regulating authority. In addition, believing that the citizens as owners are entitled to know the detailed facts as to results of operations, the accounts have been audited by reputable auditors since the inception of the Bureau in September, 1909. Moreover, I am persuaded by my own personal contact to say that these outside safeguards are further fortified by a real desire on the part of the Board of Water and Power Commissioners and of the executive and supervisory personnel so to manage this utility that it will be an example of self-supporting, scientific, and aggressive administration with the consumers' interest as a guide.

The Power Bureau has not escaped the common criticism of public enterprises that, while privately owned public utilities pay taxes, this enterprise does not. Hence, it is argued, the apparent profitability should at least be reduced by the amount of taxes which are saved. In order to clear up this point definitively it is necessary to distinguish between the point of view of the enterprise as such and what has been called the "social" point of view. For instance, Price Waterhouse and Co. in their report for the year ending June 30, 1921 state that

"no attempt is made to discuss the difference in conditions which naturally exist (as, for instance, in the matter of taxation) between public and private ownership, or to reflect such differences in any accounts or statements forming a part of the report."

In my judgment, the auditors were correct in making this qualifying statement because their report should reflect the facts and the fact is that the law does not require this municipal enterprise to pay taxes.

California adopted the policy of meeting expenditures of the state government through a tax on the gross earnings of certain enterprises, principally public utilities, and of relieving them of local and county taxes. There is no provision in the law which requires or even permits publicly owned enterprises to pay state taxes, unless they operate outside municipal boundaries. Moreover, the Power Bureau is not required to pay federal taxes.

From a broader point of view, however, there is no gainsaying that all other taxpayers had to pay a higher rate of taxation because Power Bureau operations did not appear upon the tax duplicate. Particularly is it unfair to compare tax-free public operations with taxable private operations. The data



are not at hand to estimate accurately what the Power Bureau would have paid in taxes for each of the years of its history in order to give effect to this broader point of view. We may, however, indulge in certain reasonable assumptions as to what the tax burden might be by using the experience of a similarly situated utility. The average ratio of taxes to gross revenues of the Southern California Edison Co., for the last eight years for which the figures are available, is approximately 9%. Applying this ratio to the financial results of operation of the Power Bureau since 1923 (the period of complete public ownership and operation), a corrective factor is introduced which measures approximately the advantage of public over private enterprise in this respect. The computations are shown in Table X.

The rate of return has been computed (Table X) on an average rate-base which consists of the plant and equipment account, materials and supplies, plus accounts and notes receivable. This makes no provision for cash working capital but materials and supplies includes both those devoted to construction and to operation. In any event, the allowance for working capital is substantial and the fixed capital is taken at its cost new, undiminished by depreciation, since the depreciation re-

serve has been set up on a sinking fund basis. It is clear from the table that even with an adjustment for taxes the Power Bureau would have shown a substantial earning capacity.

The Power Bureau's financial showing has also been criticized because, while the water to operate the city's power plants is brought down through the aqueduct, no part of the annual cost for interest and sinking fund on the aqueduct investment is charged against power. Since the water is used for two purposes, to generate power and for domestic and irrigation purposes, the argument is that it would be proper to charge  $\frac{1}{2}$  of this annual cost to the Power Bureau.

The above criticism is the main item in a general charge that the power enterprise is benefiting financially at the expense of the water utility. After going into this situation at some length I am convinced that whatever justification there may have been for this charge in the earlier years of operations has now largely disappeared. There is not space within the limits of this summary to treat this subject in detail. In any event the amounts involved are relatively small and sometimes compensating. The auditors and administrators have done much good work here in figuring out equitable bases for the distribution of

TABLE X. FINANCIAL RESULTS WITH TAX CORRECTION CHARGE.

| Year      | Gross Revenues | Net Income before Taxes | Estimated Taxes | Net Income after Taxes | Average Rate-Base | Rate of Return |
|-----------|----------------|-------------------------|-----------------|------------------------|-------------------|----------------|
| 1923..... | \$ 7,762,607   | \$3,701,523             | \$ 698,635      | \$3,002,888            | \$35,019,956      | 8.57%          |
| 1924..... | 9,302,092      | 4,092,604               | 837,188         | 3,255,416              | 37,873,716        | 8.60           |
| 1925..... | 10,017,485     | 3,844,791               | 901,574         | 3,143,217              | 44,478,737        | 7.07           |
| 1926..... | 11,237,159     | 4,214,922               | 1,011,344       | 3,203,578              | 51,718,616        | 6.19           |
| 1927..... | 12,658,995     | 4,832,928               | 1,139,310       | 3,693,618              | 59,072,616        | 6.25           |
| 1928..... | 13,558,049     | 4,817,943               | 1,220,224       | 3,597,719              | 65,015,659        | 5.53           |
| 1929..... | 14,737,763     | 5,388,453               | 1,326,399       | 4,062,054              | 68,745,371        | 5.91           |
| 1930..... | 15,295,009     | 5,882,075               | 1,376,551       | 4,505,524              | 71,182,690        | 6.33           |
| 1931..... | 15,451,918     | 6,010,682               | 1,390,673       | 4,620,009              | 74,669,299        | 6.19           |
| 1932..... | 15,400,161     | 5,896,949               | 1,386,014       | 4,510,935              | 76,652,144        | 5.88           |

common or general expense. For the rest, both the Water and Power Bureaus' operations are sufficiently large-scale to make economically possible the setting up of independent organizations.

Returning now to the question whether the Power Bureau should bear any portion of the fixed charges arising from the construction of the aqueduct, it should be pointed out that the Bureau has paid for the estimated excess cost of construction of that portion of the aqueduct upon which power plants are located. It was accomplished by having this section of the aqueduct constructed by the Power Bureau and the total costs charged to its plant and equipment account. This account was then credited and the fixed capital account of the Water Bureau was debited with an amount of \$795,000 which it was estimated the jointly used waterways would have cost had they been constructed without reference to power requirements.

It is apparent, therefore, that the policy of the Board in disposing of this troublesome question of joint use of the aqueduct has been to treat the Power Bureau as a branch growing out of the main stem of the Water Bureau. Is it equitable and economically justifiable to accord such treatment to the accounts of the Power Bureau?

I am inclined to answer this question in the affirmative. We are confronted here with the economic phenomenon of joint cost in the sense of by-product operations. The entire history of municipal enterprise in Los Angeles goes to show that water for domestic, agricultural, and manufacturing purposes has been the principal objective. "Without water no community" is the law of life in the arid Southwest. The action and attitude of the inhabitants of Owens Valley with respect to the original

aqueduct and of the State of Arizona with respect to the Colorado aqueduct is instinct with the rational of this axiom. How then can anyone dispute the validity of the policy of the Board which places the interests of the Water Bureau first and of the Power Bureau second.

We may quote here with approval a paragraph from the report of Price, Waterhouse and Co. dated February 21, 1922:

"We are inclined to the viewpoint that, inasmuch as it was considered essential to the City of Los Angeles that an adequate water supply be brought from Owens River, the Power enterprise in the San Francisquito Canyon should be considered in the nature of a by-product of the aqueduct, and as such not to be charged with any portion of the cost of the aqueduct construction. We are further inclined to this viewpoint because the records show that whenever there is a conflict between the requirements of the Water and Power Bureaus in respect of the amount of water which shall pass from the reservoirs above the canyon to those below, the requirements of the Water Bureau prevail. This is borne out by a statement presented to us in which it is shown that on various occasions when the power demand has been heavy, the output of the power plants has been comparatively low because the demand for water was light or the necessity of conserving water imperative. In any event it is clear that should the department continue to earn profits at the same rate as in the year ending June 30, 1921, there would still be a surplus after all other charges sufficient to meet fixed charges on a substantial valuation of the San Francisquito power site."

Another criticism relates to the fact that after the purchase of the Edison system, the cost of rehabilitation and articulation was charged to the capital accounts instead of operating expenses or the depreciation reserve. It should be noted in the first place that the Edison system was purchased at a figure which presumably takes into account the depreciated condition of the proper-

ties. The agreed purchase price of \$11,000,000 as of July 1, 1919 was increased by additions and adjustments to May 15, 1922, the date of purchase, amounting to \$1,793,237.91. According to agreement the Edison Co. depreciation reserve balance of \$749,367.94 was deducted from this total. Hence, the Power Bureau took on a property without a depreciation reserve against which retirement costs could be charged. In merging and synchronizing the distribution system after acquisition with the system constructed by the Bureau, the Bureau increased the capacity of the old Edison system and replaced much of the existing equipment with makes and types already standard in its own construction work. The cost of rehabilitation is thus, in part at least, an expenditure for the improvement of service. The auditors admitted that it was difficult to segregate accurately the charges between betterments and ordinary replacements. They appear to have been fully aware of the accounting problems, and there seems to be no reason to question the equity of their disposition of the charges. For instance, in their report for the year ending June 30, 1923 charges on account of replacements and the abandonment or dismantling of plant and equipment amounted to \$551,532.95. Of this total \$250,000 was treated as additional investment and the balance of \$301,532.95 was charged against the depreciation reserve. Similar treatment was accorded these expenditures in later years. In charging a rehabilitation expenditure to fixed capital accounts the auditors were following the accounting requirements in the classification of accounts for electric corporations prescribed by the Railroad Commission.

Another disputed item relates to the

contribution of the city from taxes. This represents amounts that were paid out of general taxes on account of bond charges during periods of construction since 1910. The auditors' procedure in showing this as a taxpayers' contribution is laudable in every respect. Would that every utility balance sheet, where the enterprise is publicly owned, might show clearly the source of such capital funds. The objection is raised, however, that this amount, representing the stake of the taxpayers, has been treated as a gift and not as a loan. It is contended that interest at the rate of 6% ought to be paid into the city treasury by the Bureau, thus benefiting the taxpayers.

The question raised by this disposition of funds contributed from taxes is akin to other questions raised where the Bureau has derived certain alleged benefits when the city acts in its corporate capacity. We will, therefore, discuss these questions at one and the same time. It is claimed that an adjustment should be made to take account of the fact that Power Bureau bonds are tax-free and hence these funds for construction are obtained at a lower rate of interest. Another question is raised as to the propriety of deducting from income only the interest on Power bonds, whereas no deduction is made for contributions to the sinking funds to pay off the bonds at maturity.

We conceive that the correct disposition of these queries depends upon whether one is trying to show the differences between public and private initiative or whether one is trying to erase these differences by making public corporations act in all respects like private corporations. We may take first the matter of the almost universally recognized lower cost of public as contrasted with private borrowings, a

difference which is quite marked in the case of the Power Bureau undertaking. The lower cost of capital for public entrepreneurship is traceable to the fact that, with the exception of public borrowings that create a lien upon the property and income of the borrowing utility, the taxing power is the guarantor of the payment of both principal and interest of public loans. This assurance to investors that principal and interest will be paid when due is further fortified by the usual constitutional or charter provisions restricting public borrowings to some specific percentage of the assessed value of all private property within each taxing jurisdiction.

The public borrowing power, so limited and backed up by the taxing power, imports the maximum degree of safety as to public loans of which a particular public economy is capable. On this account the interest rate on United States Government bonds has sometimes been taken as a bench mark in measuring a so-called riskless loan as against the degree of risk in other loans. Yet this is not strictly true. Even a government loan is not riskless. In the absence of constitutional debt limitations, as the amount of public borrowing as contrasted with the amount of private wealth subject to taxation increases the security back of public loans declines. It is the familiar insurance principle of spreading risk which is called upon to do duty here in the field of public finance. This principle is inherent in the organization of public credit and constitutes an inherent advantage of limited public capitalism as contrasted with private capitalism.

That the income from public security issues may be in varying degrees tax exempt is a minor factor. No satisfactory method has yet been derived for measuring the relative effect of tax

exemption and tax guaranty in lowering the cost of public borrowing. In any event, only an amendment of the Federal Constitution could change this country-old policy.

Yet the reputed differential advantages in the organization of public credit over against private credit are not enjoyed without inherent disadvantages. In the first place, this type of public credit is limited by constitutional provisions. Unless constitutional debt limits are raised, their effect upon public financing is like the effect of "closed mortgages" upon private financing. In the second place, the incurring of public indebtedness is subject to all the vicissitudes of political processes. Bond issues must be "carried" by a majority or even, as in the case of Power Bureau bonds, by a  $\frac{2}{3}$  vote of the people. Expenditures to acquaint voters with the facts regarding the need of issuing Power bonds may not be charged to operating expenses, so the court has held, but have to come out of private purses. For these reasons it would seem that public ownership, having shouldered the disadvantages, may fairly lay claim to the advantages of lowered cost in public financing.

Should the Power Bureau be required to show as a cost in addition to depreciation the annual sums contributed to sinking funds for bond retirement? We say not. The requirement that a fixed percentage of the principal amount of a given bond issue must be amortized through the operations of a sinking fund is another peculiarity or difference in the organization of public credit. In its governmental capacity the city owns the property, has borrowed capital and agreed to pay principal and interest out of taxes. In its proprietary capacity the city operates the business as a public utility. In its governmental



capacity and under the police power the city regulates this utility. Now if, as a matter of fact, the annual charge for interest and amortization of principal does not, in the case of self-sustaining public utility undertakings, come out of taxes but is paid with the gross revenues of the utility, this does not destroy the principle that the borrowing is for a purpose for which the city in its public capacity is responsible. If the auditors, in showing surplus earnings for the Power Bureau, deducted debt repayment, they were merely distinguishing between the city in its proprietary and in its political capacity. The city in its political capacity must pay interest and sinking fund charges. If it meets interest payments by charging them as a cost of operation to the utility, the utility is made self-sustaining. If it meets sinking fund payments out of the surplus earnings of the utility, when and as they appear, it has converted a liability to pay a debt in its political capacity into an equivalent amount of city equity. In other words, the equity of the city in its political capacity in a utility operated by the city in its proprietary capacity has been increased by the amount of the sinking fund derived from surplus earnings. The case is parallel to that of a private corporation whose directors instead of paying a cash dividend use the cash to increase the stockholders' proprietary interest by paying off a debt.

The same distinction between the city in its political capacity and in its proprietary capacity underlies also the treatment of funds contributed to the utility out of taxes. Construction of public utilities out of taxes represents an investment by the city in its collective capacity in a business enterprise. The meeting, out of taxes, of a deficit from operations carried on in its pro-

prietary capacity is a subsidy, justified, it may be, by the public welfare, but akin to assessments of stockholders to keep private corporations out of receiverships. If the source of these subsidizing funds is properly shown in the accounts, the demands of scientific procedure are fully satisfied.

If the utility is a profitable enterprise, the aim may well be, as is true of the Power Bureau, to return taxpayers' contributions to the general funds of the city. But the disposition to do so is a matter of public policy to be decided by the common council, just as it is a matter of corporate policy to be decided by the board of directors whether dividends shall be declared. In the same way it is a matter of public policy whether interest should be paid by publicly owned utilities on funds contributed out of tax revenues. A plausible argument can, no doubt, be made that taxpayers' investments should yield a return, or per contra that a utility receive interest on cash balances with the city treasurer. But, after all, once a city is committed to the idea of collective ownership of public utilities, it is a matter of public policy that the city in its governmental capacity pay interest on utility cash balances, that is to say, to the city in its proprietary capacity. It is further a matter of public policy that collective proprietorship secure its return by building up out of reasonable profits a growing equity as does a private corporation by foregoing dividends. It is finally a matter of public policy whether a city shall pay a social dividend in terms of a contribution to the general fund (in relief of rates, as they say in England) or in terms of reduced rates or improved quality of service.

We conclude that the auditors are to be commended for the insight which

they have shown in setting up the accounts for this publicly owned utility. Public ownership is by its very nature a venture in public capitalism. It ought not to be converted, by the legerdemain of accountancy, into a species of private capitalism.

The Power Bureau has long been the Mecca of public ownership advocates in the United States. Its solid accomplishments have induced others to use the Bureau as something to conjure with. No doubt, it is an example of what may be expected of public ownership and operation under favorable conditions. It is argued that these examples should serve as "yardsticks" in measuring the effectiveness of private industry under regulation. It is, therefore, of the utmost importance that economically correct standards of comparison be applied in measuring the results obtained by these alternative policies.<sup>1</sup>

It is here that the example of the Power Bureau has not always been fairly used. The most usual comparison has been to contrast average rates charged customers by public and private management. The obvious criticism is that the average rate overlooks the complex conditions which lie back of production and sale.

Another type of comparison deals with average costs per unit of service, particularly where the object is to measure comparative operating efficiency. In this form the comparison may be effectively made if the variables which the average conceals are known and unimportant, or if the variables are definitely arrayed in the shape of a cost curve. That is to say, the more completely average unit costs are broken down into costs for functionally uni-

form and comparable operations the more effective is the standard of measuring economic performance by cost. For example, in comparing unit costs it must be recognized that costs will vary according as electricity is produced from coal, oil, gas, or the energy of falling water. Again each type of generation exhibits variations within itself, depending upon the capacity and other characteristics of the plant. It is futile to compare and draw economic conclusions from the cost of generation at Niagara Falls as contrasted with the cost at some hydro plant elsewhere, where the "head" is less or greater and the conditions as to availability and storage of water radically different. All these and other varying circumstances of physical productivity give rise, from an economic point of view, to cost differentials, which under competitive conditions are known as economic rent. They are equally present under monopolistic conditions but are merged with other differential advantages or disadvantages of production, distribution, or sale. Hence, when comparisons are made between costs or prices in different locations under monopolistic conditions, the cost or price standard of comparison may be vitiated by the fact that the differentials revealed are really rent differentials arising out of the use of superior productive agents rather than a differential traceable to the fact that management is either public or private.

The animus of some of the opposition to the Power Bureau arises from the fact that both its rates and costs have not always been fairly used. The cost of electric power produced in the aqueduct power plants, for instance, should not be compared with the cost of hydro-electric power elsewhere where the power is not produced under conditions of joint cost. I agree that the method of

<sup>1</sup> Cf. M. G. Glaeser, "Wanted—A Standard Yardstick," *Public Utilities Fortnightly*, December 8, 1932, (Vol. x), p. 663.

accounting adopted by the Bureau is the correct one, charging only the additional costs of developing and utilizing the available heads of water. The responsibility for the joint cost is in fact indeterminate and any allocation thereof between the two enterprises, if attempted at all, must be a matter of commercial policy. But, by the same token, cost comparisons are vitiated by the fact that we have to deal here with a case where power is produced using the economies of joint cost.

If proper account is taken of the important variables that underlie production, comparisons of cost are a scientific method of measuring efficiency. In this way the operations of the Power Bureau may be effectively used along with the experience of others to test the efficiency of operations of private enterprise. In this way, public ownership may furnish an equitable yardstick which the commissions may use in furthering the work of regulation.

There exists at present a movement to foster municipal or government competition. I am not convinced that this represents the best public policy. But the development of monopolistic public undertakings so as to provide the material for cost comparisons—"the deadly parallel," our trust promoters used to call it—may be made into an effective regulatory tool for the commissions.

Thus far little has been said regarding the rates charged by the Power Bureau. This subject will be treated more fully elsewhere. It must suffice here to say that the level of rates has been steadily reduced. Whatever reduction in rates was initiated by the Power Bureau necessarily had to be met by its competitor, the Los Angeles Gas and Electric Co. On this account, the regulation of the level of electric rates for this Company by the California Railroad Commission

has been practically in abeyance.

In view of this steady reduction in rates, there has been a disposition in some quarters to credit the Power Bureau with being indirectly responsible for these reductions. Some rather fanciful computations of "savings" to consumers in light and power bills have been built up on this hypothesis. There is no denying that the existence of competition has helped to keep rates down. But to claim all this as an accomplishment of public competition is a bit extravagant. It reminds one of the claims that used to be put forth by advocates of state commission regulation in the years before the World War. Every reduction in rates by the commissions was hailed, quite naturally, as a "saving" to consumers and estimated in resounding sums. One could not help viewing this arithmetical process with some misgivings because it mistook the real purpose of rate regulation. This purpose is to maintain a reasonable level of rates, whether rates have to be increased or decreased. Very soon the voice of these overenthusiastic advocates of state commissions was stilled, because under the War emergency and price inflation rates had to be increased.

The computations of "savings" are at least open to these objections. The utilities, rather belatedly to be sure, discovered that reductions in rates stimulated demand. Under the law of decreasing cost this meant increasing returns. Hence, the promotional rate appeared with its objective of tapping new and lower levels of demand. In the second place, the commission would undoubtedly have forced reductions in these rates. Some indeterminate but much lesser share of the credit for rate reductions is thus all that can be fairly claimed for the Power Bureau. It would seem to the present writer that the case

for the Power Bureau can be rested upon much more substantial grounds than these problematical "savings".

In the second article of this series, dealing with the development of the market, a chart was introduced which showed how the Los Angeles market was divided between the private companies and the Power Bureau. While the competitive paralleling of distribution facilities has now largely ceased, the Los Angeles market for electric power is far from being a monopolistic market. If the economies of large-scale production and of complete integration are to be realized, it will be necessary, sooner or later, that the Power Bureau take over at a fair price the electrical utility of the Los Angeles Gas and Electric Co. and the remaining tag ends of the distribution system of the Southern California Edison Co. If complete monopoly is the correct principle upon which the electric industry is to be organized elsewhere, why should this principle not be adopted in the case of the Los Angeles market? The cost of distribution, both capital and operating costs, could undoubtedly be reduced. The present situation is uneconomic and should be changed. While there would, of course, be some wastage of capital equipment to begin with, the long-run economies lie in the direction of complete monopolization.

One very important consideration should commend itself to every consumer of electric service in Los Angeles and induce him to favor complete monopolization. The chief difficulty of the Power Bureau has been that it has been unable to supply itself with the funds required to meet its obligations as a public utility. It should always be kept in mind that a producer of electric power, whether under public or private ownership, is a public utility. If this

means anything, it means that a producer's reason for existence is that he is rendering service to the consuming public. Often, unless I mistake the psychology of public utility managements, the idea is that a public utility exists in order to give officials well-paid jobs and stockholders substantial dividends. But, unfortunately, we live in a world of scarcity and dividends are paid and officials get salaries because they are able to produce service. Monopolies are prone to forget this unless commissions call it to their attention. Also, public utilities are provided with capital in order to render service.

The Power Bureau has been forced to get its capital by public borrowings. This could only be obtained by a  $\frac{3}{4}$  vote of the people. Because of the rapid growth of population, the accession of new voters, unfamiliar with the needs of the city, has been such that the privately owned utilities have been able to defeat public bond issues. So serious was the situation that on one occasion, when a Power bond issue had been defeated, it was necessary to enlist the cooperation of the California Railroad Commission. A report by the Commission as to the capital requirements of this electric utility for necessary extensions was a determining factor in a later favorable vote upon a new bond issue.

This episode teaches two lessons. The first is that private utilities must be removed from the local market because they conceive it to be to their interest to impede the financing of this public enterprise even when its public utility obligations are put in jeopardy. No privately owned public utility has such difficult access to the capital market. Therefore, if the community desires to avail itself of the advantages of public enterprise and yet enable this public



enterprise to fulfill its public utility obligations, privately owned utilities should be eliminated from this municipal market. This will remove the temptation to interfere with the normal and natural development of the Power Bureau as a public utility.

The second lesson is that an impartial regulating authority is necessary to enable even a municipally owned utility to live up to its public utility obligations. The interests of management and of the consumer are naturally antithetic. An outside, informed, impartial tribunal is necessary to hold the balance even. The Railroad Commission of California can perform this function as well for governmentally owned as for privately owned utilities. In states like Wisconsin where both are subject to a state regulating commission the managing officials of public enterprises

have often been thankful that they were "coerced" to carry out their public utility obligations in defiance of a local council.

The expansion in the activities of the Power Bureau which will come as a result of the bringing in of Boulder Dam electric power lies beyond the scope of the present summary of its activities. This also will be considered at length in a later publication. But it is advisable to conclude this article, just as it was necessarily referred to in the first, that with the tapping of the water resources of the Colorado River the field of operations of the Power Bureau, as of the Water Bureau, has taken on a national aspect and challenges the attention of the entire country. In fact, the success of the Power Bureau operations is one of the principal financial safeguards for this national investment.

# The Property Tax as an Obstacle to the Private Development of Idle Forest Lands

By WADE DE VRIES

THE private development of our vast areas of idle forest lands has been awaited for a long time. Prior to 1920 we were not greatly concerned about the increasing area of cut-over land awaiting development. State development bureaus, immigration departments, and private colonization companies all were doing their part in bringing would-be farmers to the land that they would attempt to develop for farming use. But in spite of the cooperative efforts of these public and private settlement agencies, made on an increasing scale, they were never able to settle land nearly as fast as the lumbermen were deforesting it.

After 1920 the prices of farm products and farm land values declined. This resulted in the complete rout of the state immigration departments and private colonization companies. The area of idle, cut-over forest land increased even faster than the rate at which the lumbermen were deforesting land. The gains in land settlement made during the decade of 1910-1920 were quickly lost. Those state development organizations which survived were quick to sense the change. They became interested in promoting hunting and fishing and all other forms of recreational development of rural lands.

These organizations realized that the mistakes of the past decade were attributable in large part to a lack of knowledge of the physical and economic advantages and limitations of the lands with which they were dealing. This included a misconception of the need for land to be devoted to agriculture. Land

economic surveys and inventories and land utilization studies were inaugurated and are still being carried on. They are intended to provide the foresight which had been lacking before. They are intended to supply the data from which a plan can be made for the development of all the resources of a county or district.

Still after 10 years of such surveys, inventories, and studies, private owners are not making any use of these millions of acres of idle forest land. Governmental agencies, however, are using the inventory data in making plans for public forest and recreational development of publicly owned lands and those lands which are likely to come into public ownership in the near future.

Private owners now claim that excessive taxation makes it impossible for them to develop these idle acres. The fact that a tax is high or is increasing is no reason for branding it excessive. However, if the tax is such as to make economically impossible such private development and utilization of lands as is to the public interest, the tax can be said to be truly excessive. A study of the theoretical and practical effect of the property tax on land values and land ownership will disclose the potentialities of this tax as an obstacle to development.

## *Effect of the Property Tax on Land Values*

The effect of the imposition of a property tax is to require the owner of property to share with the government a portion of the income from the property. The share of the income which it is expected will be retained by the private owner is all that gives the property a

value in the market. It follows that an increase in the amount of the property tax tends to depress private property values; and the property tax is based only on market value. If taxes are increased to such an extent that the government's share in the income from a property is equal to the whole income, there is no private income which would give the property a value upon which the property tax could be based. In other words, the amount of the property tax cannot be as large as the expected annual income from the property without a confiscation of all market value and the failure of the property tax to produce any revenue. If the property tax levy becomes so heavy as to result in the loss of all value or even threatens to do so in the future, there can be no private development of the great areas of idle forest land. If such land is returned to public ownership and thus becomes tax free, its development for the production of a future income may again become economically feasible.

The effect of an increased property tax in depressing values may be easily illustrated in a theoretical example. The taxable value of a property is theoretically equal to the capitalized value of the expected net income remaining after the government has taken its share, which may be expressed as

$$\frac{\text{Annual net income minus taxes}}{\text{Pure interest rate}}$$

Applying this formula to a whole taxing district having a perpetual net income before taxes of \$100,000 a year, we may note in Table I the theoretical effect on the value of all property in the district by the imposition of various tax rates.

<sup>1</sup> Even a tax rate of 147% does not destroy all value, for the value in the last line of Table I is \$66,667. This is a theoretical illustration in which the net income before taxes is exactly \$100,000 each year. If the taxes exceeded \$100,000, the income to be capitalized would

This computation shows that a theoretically perfect operation of the property tax will not destroy all private value, no matter how high the tax rate. It also indicates that under such perfect operation no property tax, no matter how high the rate, will amount to as much as the entire net income before the taxes had been deducted.<sup>1</sup>

TABLE I. EFFECT OF VARIOUS TAX RATES ON PROPERTY VALUES

(3% is assumed to be the pure interest rate.)

| Tax Rate    | Tax Base or Value                           | Amount of Taxes |
|-------------|---|-----------------|
| 0% . . . .  | \$100,000<br>or \$3,333,333<br>.03          | 0               |
| 2 . . . .   | \$100,000—\$40,000<br>or \$2,000,000<br>.03 | \$40,000        |
| 5 . . . .   | \$100,000—\$62,500<br>or \$1,250,000<br>.03 | 62,500          |
| 9 . . . .   | \$100,000—\$75,000<br>or \$ 833,333<br>.03  | 75,000          |
| 22 . . . .  | \$100,000—\$88,000<br>or \$ 400,000<br>.03  | 88,000          |
| 47 . . . .  | \$100,000—\$94,000<br>or \$ 200,000<br>.03  | 94,000          |
| 97 . . . .  | \$100,000—\$97,000<br>or \$ 100,000<br>.03  | 97,000          |
| 147 . . . . | \$100,000—\$98,000<br>or \$ 66,667<br>.03   | 98,000          |

Now we make use of the above theoretical illustration to consider the practical operation of the property tax in a cut-over land region. Consider a certain county of about 400,000 acres in a sandy, cut-over, pine-plains region, in which practically all personal property in the county is legally exempt or at least not

be zero, giving a value of zero. If income just met operating expenses, there would be no net income and hence no value. Of course, such statements as these assume a perfect knowledge of the future and no change in conditions.

taxed. The total expected annual net income from real estate in this county may be assumed to be only \$100,000. A 2% tax rate on a property value of \$2,000,000 (an average of \$5.00 per acre) produces a tax revenue of \$40,000. The following year the total budget for all taxing units requires that \$62,500 of revenue be raised in the county. As soon as it is realized that this increased revenue requirement is likely to be permanent, it will have its effect upon values. The expected annual net income will remain unchanged, but because of increased taxes the real estate values will be depressed to \$1,250,000, and a 5% tax rate will be necessary to raise the required revenue. If in later years the total budget requirements are increased to \$100,000 per year with no increase in the expected annual net income before deducting taxes, and if this high revenue requirement seems likely to be maintained year after year, it will be impossible to levy and collect the \$100,000 by means of the legal operation of the property tax.

A perfect assessment will prevent the confiscation of all value, but it will not produce the required revenue by any possible increase in the tax rate. In such a case the assessor might consider it his duty to provide means of raising the required revenue. (It should be remembered that it is the legal duty of the assessor only to find the value of property; the duty of the legislative body is to provide means of raising the required revenue.) The easiest method for the assessor would be a resort to overassessment. It might seem to him that the former tax rate of 5% might be maintained by increasing the assessment from \$1,250,000 to \$2,000,000, for 5% of \$2,000,000 would equal \$100,000, or the revenue requirement. However, because of the overassessment and high tax the

theoretical value of the district will be zero, and many individual owners will decide that land ownership under such taxation is not worth while and will let their land revert to public ownership.

It is entirely probable that actual situations fitting the above illustration and suppositions in essential particulars can be found. If property owners think that a tax will continue to be levied in future years which is as great as the entire net income from their property, the true private value of the property will be reduced to zero, the tax will not be paid, and the property itself will be forfeited to the government. It is characteristic of some property owners in such situations to be optimistic and hope that the present excessive burden is only temporary. It is for this reason that in any one district forfeiture of property to government may continue over many years. All owners do not lose heart in the same year, but the percentage of delinquency increases until the maintenance of the local government becomes not only impractical but impossible.

#### *Effect on Idle Forest Land*

The above discussion has had reference to the effect of the property tax on real estate in general. High taxes have a further effect on the utilization of idle, cut-over forest land, where the development must be carried on over a period of many years before any substantial income will be received. If, for example, the present annual tax rates are assumed to remain fixed until after the major income is received, the owner may calculate that taxes will take 75% of the net income and leave only  $\frac{1}{4}$  of this income as the private owner's share, the share which imparts to the property a taxable value. If present and past events in connection with the government make the owner doubtful or uncertain as to



the increased tax burden which may be brought about by an increasing tax rate or overassessment, the owner will not engage in such a deferred-income enterprise as reforestation. The risk is too great that the small share of the net income, which is at present foreseen as accruing to the owner, will never be realized, but that even it will be taken by the government in taxes.

For this reason great areas of idle forest land which may be otherwise suitable are not being developed by private enterprise. Only the possibility of immediate income from recreational, farming, or mineral development provides an incentive for private owners to pay taxes on such land and thus continue to maintain their equity in future incomes from it. Uncertainty of future tax burdens has an important bearing upon land development when the income from such development is to be long deferred. And the higher the ratio between taxes and expected net income, the greater obstacle to development does this uncertainty become.

This obstacle to the private development of idle forest land can be reduced by a change in the property tax law which will adjust the tax to the flow of income. Given the same careful assessment and the same tax rate, a forest property, the income or yield from which must be deferred for more than one year, will bear a heavier burden of taxation in proportion to income than a property producing an annual income. This is because property taxes must be paid annually. The carrying charges on these payments in advance of the income receipt constitute the extra tax cost on deferred-yield forest property. If this extra tax cost, consisting of carrying charges on advance tax payments,

were eliminated by an adjustment or modification of the usual property tax, the tax burden would be lighter, a person could afford to pay more for land to grow forests, the effect of the uncertainty of future tax burdens would become less of an obstacle to forest land development, and forest growing could better compete with land speculation as an incentive to private ownership.<sup>2</sup>

#### *A Suggestion*

However, it must be realized that any modification of the tax laws does not reduce the whole tax burden, but merely shifts it from certain properties to other properties. In the idle, cut-over forest land districts real estate constitutes the bulk of the private wealth found in the local tax districts. And local taxes constitute the major portion of the tax burden. In general, these taxes cannot be effectively reduced by lowering assessments, by reducing the tax rate, or by any modification of the tax laws. The principal remedy for this situation is to be found in reducing local governmental budgets. But in the cut-over forest regions local government, although heavily subsidized, has already been reduced to skeleton form. It has been impoverished to such an extent that the people no longer take pride in their local self-government.

Now that farming has been definitely given up as the probable future use for these idle forest lands, perhaps it would be well to abandon the form of local government which was designed for a closely settled farming community, and substitute a local government which is virile and at the same time can be supported without an undue tax burden.

There is only one large area or territory in that part of the United States east of the Mississippi River where

<sup>2</sup> Cf. "Changes in the Tax System Relating Especially to Forests—Conclusions and Recommendations," *For-*

*est Taxation Inquiry*, United States Forest Service, Progress Report No. 18, May 1, 1933.

farming development has never been attempted and where the local government was not designed for a farming community. The area referred to is the unorganized territory found in the northwestern and eastern parts of the State of Maine. Here is an area as large as 30 average mid-western counties where forest growing has always been considered to be the best use of the land, and local governmental services are in harmony with the needs created by the present type of land use and occupancy. Only  $\frac{1}{4}$  of the unorganized townships in this area are populated, and all but three of these had a population in 1930 of less than 200 persons, or less than five per square mile. The local government and schools are administered by state agents. The tax burden in this territory is roughly  $\frac{1}{4}$  that which prevails in the surrounding well settled areas. In spite of the low taxes, educational facilities are a matter of state and local pride, the local road system is adequately supported, and, rather than the local government being subsidized, one-half million dollars of tax revenue collected in this territory is its annual contribution to the schools and other units of government in the more thickly settled parts of the state. Here tax delinquency is insignificant (.00045 of the area was

offered at the tax sale in 1930) and, with the exception of the public school and national forest lands, there is no publicly owned forest property and none is desired. Even the trees on the school lands are privately owned and taxed. Under these conditions the property tax has not become an obstacle to the private development of the forest lands.

It seems entirely reasonable to conclude that an oversupply of governmental organization, poor budget control, and the lax and illegal administration of the present property tax are the chief causes of excessive property taxes. Such taxes are a real obstacle to the private development of lands. Assessment at true value or at the exact fraction of true value provided by the statutes would overcome the excessive taxation of many individual properties. However, the reorganization of local government along simplified lines, with the objective of making the new organization fit the natural and economic advantages and handicaps inherent in a region, will become a necessity in many forest land districts before any further reduction in the tax burden is possible. Indeed, such reduction must be made in many districts if the property tax is to function as a revenue producer for the local government.

# Public Control of Contract Motor Carriers

By JOHN J. GEORGE

## 1. Necessity for Regulation

THE most urgent problem in motor carrier regulation in the last five years has resulted from the operations of contract motor carriers—those motor transportation agencies which solicit and accept business from only selected customers under private agreement and who offer no service to the public indiscriminately.

The advantages of contract motor carrier service over railroad freight service include the convenient pick-up and store delivery; elimination of crating and packing (a welcome relief in transporting many types of goods); and flexibility of service which permits working of various routing and load combinations, and acceptance and delivery of goods before railway freight service begins in the morning and after it closes for the day. These advantages arise from the physical operation of contract carriers.

Until recently a legal advantage universally attached to the contract carrier; he needed no form of authorization to operate and he was free to solicit and accept business on whatever terms, including rates to be charged, he deemed advisable.

These advantages proved such a handicap over both common carrier motor and railroad freight service as to constitute the contract carrier a devastating competitor, especially with railroad freight service. From 1920 to 1931 railroad l. c. l. freight tonnage declined

57%; and railway earned rate of return declined from 4.99% in 1926 to 2% in 1931.<sup>1</sup> No data are available as to the part played by contract carriers in this fast moving drama, but any thoughtful person will admit that the motor truck has seriously affected railway tonnage.

Who has been adversely affected by the activities of uncontrolled contract carriers? First we place railroad administration, labor, individual stockholders, and bondholders. As a close second appear banks and insurance companies as dealers in and owners of railroad securities. The farmer suffers lowered prices resulting from motor truck flooding of markets for live stock, fruits, and vegetables, without the benefit of lowered prices being passed on to the consumer because much of the produce deteriorates too rapidly.<sup>2</sup> Motor common carriers of property suffer because their unregulated competitor does not have to prove public convenience and necessity for authorization to operate his service, nor observe a definite, authorized rate schedule.

The taxpayer who pays for the highway is concerned in whether the contract carrier compensates fully for the wear and tear put on the highway by the contract carrier, and for the business privilege enjoyed by the latter in the use of the highway. Finally, the motorist often finds highway traffic seriously congested by contract carrier vehicles, whose very presence does not promote highway safety, a matter of vital concern to all.

<sup>1</sup> *Yearbook of Railroad Information*, 1932, pp. 30, 34, 40.

<sup>2</sup> *Traffic World*, April 2, and September 17, 1932,

quoted in *Report of Motor Vehicle Transportation Committee of National Association of Railroad and Public Utility Commissioners*, November 16, 1932.

The enormous increase in volume and distance-range of contract carrier transportation has created conditions of competition and highway congestion which make imperative some constructive scheme of control. But the uncertainty of plan to be applied resulting from early unsuccessful efforts to control contract carriers has greatly deterred state legislatures from undertaking regulation.

A division of opinion has persisted as to whether contract carriers are affected with a public interest.<sup>3</sup> The present trend is strongly toward the view that public interest does attach to contract carrier activity.<sup>4</sup>

## II. Unconstitutional Attempts to Regulate Contract Carriers

Early motor carrier statutes generally sought to regulate "auto transportation companies," "motor transportation companies," "motor vehicles in public service which are public utilities," or "common carrier" motor vehicles. Whether specifically stated or not, most of the statutes aimed at common carriers only. However, before 1930 California, Michigan, Ohio, and Florida made particular efforts to regulate contract carriers by the same statutory scheme as was applied to common carriers.

The California act of 1917 specifically empowered the Railroad Commission to regulate auto stages and trucks using the highways, for compensation, between definite points or over a regular route.<sup>5</sup>

<sup>3</sup> Two attorneys for National Automobile Chamber of Commerce have insisted contract carriers are not so affected (Brown and Scott, "Regulation of the Contract Motor Carrier under the Constitution," 44 *Harvard Law Review* 530 (January, 1931)); but an attorney for the Railway Executives in a brief filed with the Interstate Commerce Commission holds that contract carriers are affected with a public interest and therefore subject to public control. Commissioner Worth Allen of Colorado insists that contract carrier activity amply meets the public interest test as prescribed in *Munn v. Illinois* (*Public Utilities Fortnightly*, November 24, 1932).

Soon thereafter the state supreme court held as common carriers automobiles engaged in transportation of passengers or freight for hire over routes between cities on the public highway.<sup>6</sup> But until 1919 the Commission sought to exercise no authority over non-common carrier vehicles.<sup>7</sup> In that year an amendment to the act extended the scope of regulation to include those operators using the highways between definite points or on fixed routes "for compensation, or as a common carrier."

The purpose of the amendment was to enable the Commission to regulate motor vehicles operating for hire without providing them common carriers. The power added by the amendment did not amount to "arbitrary discretion," the state supreme court later ruled.<sup>8</sup> The Commission soon demonstrated its intention to regulate contract carriers as coming within the scope of the amended statute; and on review the state supreme court interpreted the act as extending Commission power to all those operating motor vehicles over the public highways for hire, operation under a private contract with one corporation must cease until a certificate of public convenience and necessity should have been obtained. Thus did the court insist on what the statute clearly and unmistakably intended—namely, regulation of private contract carriers in the same manner as common carriers were regulated.<sup>9</sup>

<sup>4</sup> The Texas statute of 1931 so declares; it was held valid by the United States Supreme Court in *Stephenson v. Binford*, Advance Opinions, October, 1932 Term, 203-14.

<sup>5</sup> Statutes of 1917, Chapter 213.

<sup>6</sup> *Western Association v. Railroad Commission of California*, 173 Cal. 802 (1917).

<sup>7</sup> Auto Stage and Truck Transportation Department, Report, 1924-25, p. 29.

<sup>8</sup> *Holmes v. Railroad Commission of California*, 242 Pac. 486 (1925).

<sup>9</sup> *Bolton & Bennetts v. Olsen, Rauch & Williams*, California Decisions, 12,700.



But the California practice of regulating private contract carriers as if they were common carriers came to a critical test in 1925. Relying on the decision in the Bolton case, the State Commission ordered cessation of operation by Frost Brothers, transporters of citrus fruits between two intrastate points under private contract, until the operators should obtain a certificate of public convenience and necessity. The operators contended that the act could not apply to contract carriers. Reviewing the case the state supreme court upheld the state efforts on the grounds that no one has a "right" to use the highways for transporting private business, that common carriers validly regulated have a vital interest in contract carrier activity, that the purpose of controlling contract carriers is to obtain adequate, reliable and regular service at fair cost, that the contracts involved were made five years after regulation was enacted. The court concluded that a choice was left the operators between accepting the terms of the regulation or ceasing operations.

But the Frosts did not accept the decision of the California court as had Bolton. Alleging that the California act, as applied, transformed private carriers into public carriers by legislative fiat, plaintiffs took the question on error to the United States Supreme Court. This Court granted that the state may withhold the use of the highways in "proper cases," denied state power to compel private carriers to become public carriers as a condition to their use of the highway and to submit to regulation as common carriers, and held that the local

interpretation of the California act violated due process of the Fourteenth Amendment. Holding the act invalid as applied to plaintiffs in error as private contract carriers, the Supreme Court reversed the lower court by a 6-3 vote.<sup>10</sup>

The efforts of Michigan at regulating private contract carriers began later than those of California but reached federal court adjudication earlier than the California case. The Michigan statute of 1923<sup>11</sup> provides:

"No person, firm, or corporation shall engage in or continue in the business of transporting persons or property by motor vehicle for hire upon or over the public highways of this state over fixed routes or between fixed termini, or hold themselves out to the public as being engaged in such business unless and until they shall have obtained from the Michigan Public Utilities Commission a permit so to do, which permit shall be issued in accord with the public convenience and necessity . . ."

All those so engaged are declared common carriers and subjected to whatever laws exist or shall be enacted in Michigan governing the carriage of persons and property by other common carriers.<sup>12</sup> No mention is made of operators transporting under private contract, and state administrative application subsequently revealed the intent of the act to regulate both common carriers and what proved to be private contract carriers.

Duke, employing 47 trucks in transporting automobile parts between Detroit and Toledo under private contract made before the 1923 act was passed, was ordered by the Michigan Public Utilities Commission to secure a certificate of public convenience and necessity and to

<sup>10</sup> *Frost v. Railroad Commission of California*, 271 U. S. 583 (1926). Mr. Justice Holmes in characteristic brevity dissented on the ground that only the question whether a certificate could be exacted was before the Court, not the conditions which the certificate could contain. Mr. Justice Brandeis concurred; Mr. Justice McReynolds prepared a separate dissent. In one

other motor carrier case, *Quaker City Cab Co. v. Pennsylvania*, 277 U. S. 389 (1928), have three members dissented. In no other instance among the 22 decisions does the dissent involve more than one member of the court.

<sup>11</sup> Public Act 209, Session 1923, Section 1.

<sup>12</sup> *Ibid.*, Section 3.

provide liability protection. He asserted that the act conflicted with the commerce clause and violated the due process clause of the Fourteenth Amendment, and on this complaint obtained from the federal district court an injunction against enforcement against him as a private contract carrier. Thereupon, the Commission appealed.

Through Mr. Justice Butler the United States Supreme Court reasoned that Duke was operating entirely in interstate commerce, offered service under private contract, had not devoted his property to public purpose, owed no transportation service to the public, and the public was dependent on him for none. Therefore it declared that the state law exacting certificates of public convenience and necessity would amount to a deprivation of Duke's property by legislative fiat, and that this transformation of a private contract carrier into a public carrier with the attendant obligations constituted an unreasonable burden on interstate commerce. Consequently the application of the statute was invalid as to Duke.<sup>13</sup>

The Ohio statute of 1921 subjected "motor transportation companies" to regulation.<sup>14</sup> Obviously, the phrase could easily encompass private contract carriers. Two months after the Duke decision the Ohio Supreme Court declared the Legislature has no power by fiat to transform into a common carrier a private carrier of goods over highways "where no service of a public character was being rendered."<sup>15</sup> Promptly the Ohio Legislature so amended the regulatory act as to exclude from the term "motor transportation companies" those carriers operating under private contracts.<sup>16</sup>

<sup>13</sup> *Michigan Public Utilities Commission v. Duke*, 266 U. S. 570 (1925). This is one of 11 cases treated in the writer's "Motor Carriers and the Supreme Court,"

In spite of the Duke decision in 1925 and the Frost decision in 1926, emphasizing the inability of the state to regulate private contract carriers and common carriers alike, the Florida Legislature in 1929 enacted that every auto transportation company, as defined in the statute, obtain a certificate that the present or future public convenience and necessity requires the operation of such service. Information concerning the applicant and proposed service are required in the application and the Railroad Commission is authorized to grant, grant with modifications, or deny the certificate as public convenience and necessity requires. Previous operation by the applicant (if any), the effect of the proposed service on existing transportation facilities, and other matters the Commission may consider in the decision "to qualify or disqualify applicant as a common carrier." Rate schedule and liability bond must be filed. Certificates would issue as a matter of right to bona fide operators on effective date of that statute.

Reversing the trial court, the Florida Supreme Court held valid the 1929 act as applied to a contract carrier transporting exclusively the goods of one concern between two Florida points without complying with the certificate (and tax) requirements. Appeal was taken to the United States Supreme Court, which reasoned as follows concerning the validity of the statute:

1. The statute on its face makes no distinction between common carriers and a private carrier such as the appellant. It applies to all auto transportation companies stated in the statute.

*Commercial Law League Journal*, February, 1930.

<sup>14</sup> *General Code*, 614-84.

<sup>15</sup> *Hissem v. Guran*, 146 N. E. 808 (1925).

<sup>16</sup> *Ohio General Code*, Section 614-84 (a).

2. All carriers, public and private, are placed on the same basis. All must have certificates of public convenience and necessity issued on like application and conditions. The same obligations are imposed on all.
3. Such a scheme of regulation of a private carrier business clearly exceeds the power of the state.

Invalidating the certificate and liability bond requirements as applied to the appellant, the Court deemed it unnecessary to adjudge the validity of a mileage tax specified in the statute.<sup>17</sup>

The Georgia act of 1931 requires contract carriers to obtain a certificate of public convenience and necessity, and the state supreme court has denied an injunction against enforcement of the requirement.<sup>18</sup>

In its efforts to cope with "wild cat" operation the California Commission has recommended especially that contract carriers be required to obtain the certificate in order to operate. The applicant would have to prove that public convenience and necessity require his proposed service, that he is financially able to perform the service, and he must make public all contracts on which he will base his operations.

Since California proposes and Georgia requires the certificate of public convenience and necessity for common carriers, we are warranted in concluding here that the above positions are untenable as applied to contract carriers. Such a requirement is contrary to the Duke, Frost, and *Smith v. Cahoon* decisions.

A comparative analysis of the unconstitutional efforts of California, Michigan, Ohio, and Florida at controlling carriers produces at least the following findings: (1) the statute need not

specify private contract carriers as within the scope of regulation set down for common carriers; (2) statutes obviously intending regulation of both types alike cannot be validly applied to private contract carriers; (3) whether the contract carrier operation is intrastate or interstate does not enable the state to control contract carriers in the same manner as common carriers;<sup>19</sup> (4) likewise irrelevant is the question whether the contracts were made prior or subsequently to enactment of the regulatory measure;<sup>20</sup> (5) reliance (as in the case of California) on legislative determination to include private carriers within the statute is insufficient, even on the grounds that no vested or natural right to use the highway for profit supplies a basis for putting both types on equal regulatory footing, or that it is necessary to obtain proper service and provide equal opportunity for common carriers, or that the statute leaves the private carrier a choice whether he will cease operation or devote his property to a public or quasi-public purpose; (6) in the Duke, Frost, and *Hissem* cases the Court negated the attempts to regulate contract carriers and common carriers alike, in each case the attempt constituting transformation of contract carriers into common carriers contrary to due process; (7) because of uncertainty, vagueness, and indefiniteness of its provisions, the Florida act evidenced no severability of requirements applicable to common and contract carriers but unconstitutionally sought to apply to both the same plan of regulation; (8) a certificate of public convenience and necessity cannot be required of a private contract carrier.

<sup>17</sup> *Smith v. Cahoon*, 283 U. S. 553 (1931).

<sup>18</sup> *Montgomery & Atlanta Freight Lines v. Georgia Public Service Commission*. Reported in *Public Utilities Fortnightly*, December 8, 1932, Special Section 717.

<sup>19</sup> Interstate operation in Duke case; intrastate in others.

<sup>20</sup> Contracts were made prior to regulation in Florida and Michigan; subsequently in Ohio and California.

While the United States Supreme Court in the *Duke, Frost, and Smith v. Cahoon* decisions has established beyond cavil that the state cannot regulate both types of carrier in the same manner, if the states wish to regulate contract carriers, they must do so by a plan different from that applied to common carriers. None of the opinions suggests that contract carriers cannot be regulated *as such*. And in the *Frost* opinion the Court disclaimed all attempts at challenging state power to regulate carriers private in name but common in fact. Whether a carrier is common or private depends on what he does, not on what he is labeled or how he styles himself.<sup>21</sup>

### III. Valid Devices for Regulating Contract Carriers

Since 1929 several states, particularly Oklahoma, Florida, Kansas, and Texas, have legislated validly on contract carriers. These measures have recognized contract carriers as a class separate from common carriers and from special types of vehicles transporting owner's property, road materials, agricultural products, and newspapers from publishers to subscribers.

The most important device employed to effectuate control is the permit or license exacted from contract carriers. This is usually granted the applicant on furnishing specified information, com-

plying with operative regulations and payment of fees. By raising no question as to the public utility character of the service proposed by contract carriers, the permit stands in marked contrast to the requirement of common carrier applicants that they prove public convenience and necessity as a basis for their proposed service.<sup>22</sup>

To promote public safety, the state may require that contract carriers maintain their vehicles in a safe condition, provide identification of vehicles, operate them safely, and report to state authority accidents arising in course of operation.<sup>23</sup> Qualifications for drivers of these vehicles may be prescribed and their hours of work fixed.<sup>24</sup>

In the case of *Continental Baking Co. v. Woodring*, just referred to, the Supreme Court upheld the state requirement that contract carriers furnish liability protection of such reasonable amount as the public service commission deems sufficient to "protect the interests of the public in regard to the number of persons and amount of property involved" against injuries and damages resulting from the negligent operation of the contract carrier *only to the extent of protecting third persons against injuries, and damage to their property*.<sup>25</sup>

A Florida act prescribing for common and contract carriers alike a comprehensive scheme of regulations including liability insurance was invalidated by the

<sup>21</sup> The Colorado Supreme Court in *Davis v. Colorado*, 276 Pac. 801. This standard of determination was applied by the United States Supreme Court in the *Duke* opinion. Numerous cases involving "Who is a Motor Common Carrier?" have been presented by the writer in *Bus Transportation* (New York: McGraw-Hill Co., May, 1929) and in Chapter 4 of *Motor Carrier Regulation in the United States* (Spartanburg, S. C.: Band and White, 1929). The more recent cases involving what is a contract carrier are: *Re Patton* (Ohio), P. U. R. 1931 D 38; *De Matteis v. Jones* (New York Supreme Court), 255 N. Y. Supp. 178 (1932); and *Grolbert v. Board of Railroad Commissioners* (U. S. District Court), 60 Fed. (2nd) 321 (1932).

<sup>22</sup> Considerations influencing the granting of common carrier certificates have been treated by the writer in "Factors in Granting Certificates of Public Convenience and Necessity," 5 *Indiana Law Journal* 243 (January, 1930).

<sup>23</sup> *Schwartzman v. Stahl* (U. S. District Court, Missouri), 60 Fed. (2nd) 1034 (1932); *Continental Baking Co. v. Woodring*, 286 U. S. 352 (1932).

<sup>24</sup> *Continental Baking Co. v. Woodring*, *supra* n. 23.

<sup>25</sup> Italics are mine. This limited liability suggests a similar pronouncement in *Sprout v. South Bend*, 72 Lawyers Ed. 833 (1928), involving an interstate carrier of passengers.



United States Supreme Court on grounds of inseparability of the statute. But the Court approved the principle of the state requiring liability protection of contract carriers by saying:

"We entertain no doubt of the power of the state to insist upon suitable protection of the public against injuries through the operations, on its highways, of carriers for hire, whether they are common carriers or private carriers."<sup>26</sup>

A third form of control applied to contract carriers is set forth in limitations on weight, length, and width of loaded vehicles. The Oklahoma regulation validly recognizes a vital relation between the loading of a truck and the wear resulting to the highway surface.<sup>27</sup> Florida limits of 16,000 pounds total weight for contract trucks and 24,000 pounds for common carrier trucks have received approval.<sup>28</sup>

The need for weight and size limits has received decidedly emphatic recognition in Texas, whose statute of 1931 institutes the most comprehensive size and weight restrictions yet enacted on motor carrier vehicles.<sup>29</sup> Whether these restrictions could be applied to an operator in contract and common carriage in intrastate and interstate commerce without violating due process, denying equal protection, or conflicting with the commerce or contract clause came before the Supreme Court, whose essential reasoning may be summarized as follows:<sup>30</sup>

First, as to weight limits and due process: (1) the 7,000-pound net-load limit is not so arbitrary as to deprive truck operators of their property without due

process; (2) state control over its highways . . . extends to prevention of wear and hazards by vehicles of excessive size and undue weight of loads, limitations on which clearly come within legislative discretion; (3) the weight restriction would impose on the state "an intolerable supervision hostile to basic principles of our government and wholly beyond the protection intended by the Fourteenth Amendment" which does not require scientific exactness as a criterion of constitutional power"; (4) the legislature has wide range in fixing the limits, is entitled to form its own judgment, and its action, within its lawful range, cannot be set aside because compliance with the judgment is burdensome; (5) there appears no constitutional distinction admitting the power of the state to fix total load limit while denying authority to fix net load limit.

Second, as to the equal protection clause: (1) neither the specified exemptions, the classification of carriers of persons and carriers of property, nor the length limits for separate vehicles and combinations operated in the two situations set forth in the statute violate equal protection; (2) setting size and weight limits for vehicles allowable on the highways is not invalid "because it favors transportation by railroad against transportation by motor truck," for the state may encourage a fair distribution of "traffic to the end that all necessary facilities shall be maintained and that the public shall not be inconvenienced by the inordinate uses of its highways for

allowed to operate, or whose weight exceeds 600 pounds per inch of tire width. These limits do not apply to busses, agricultural machinery, water-drilling, or highway-building machinery. The length, width, and weight limits are much more liberal for vehicles transporting goods from point of origin to the nearest receiving station of common carrier capable of transporting the load or from such station to destination, provided the vehicles move over nearest practicable route.

<sup>30</sup> *Sproles v. Binford*, 286 U. S. 374 (1932).

<sup>26</sup> *Smith v. Cahoon*, *supra* n. 17.

<sup>27</sup> *Broadway Express v. Murray*, 60 Fed. (2nd) 293 (1932).

<sup>28</sup> *City Grocery Co. v. State Road Department*, 60 Fed. (2nd) 331 (1932).

<sup>29</sup> Chap. 282, Sections 2, 3, 5, 7. Maximum width, 96 inches; height 12½ feet; length of one vehicle 35 feet, 45 feet for any combination; beyond city limits no vehicle whose net weight exceeds 7,000 pounds is

the purposes of gain"; (3) in classifying and regulating motor vehicles permitted on the highways the legislature may consider the frequency and character of use made of the highway by the various classes of operations and adapt the regulations to the class of operations which, because of their extensive and constant use of the highways, made the regulations necessary.

Third, as to the commerce clause, calling attention to the law established in *Morris v. Doby*,<sup>31</sup> that congressional acts do not withhold from the state its police power to conserve the highways and promote safety by reasonable regulations applicable alike to vehicles in interstate and intrastate commerce, the Court characterized as without merit the contention that the load limit violates the commerce clause.

Fourth, as to the contract clause, the Court reasoned that state fixing of load limits allowable on the highways which are otherwise valid constitute no unlawful violation of existing contracts.

Finally, the Court stated that the statute in its classification and its terminology did not fail for lack of certainty, nor did legislative empowering of the highway commission to allow emergency transportation of loads exceeding limits fixed by the statute constitute unlawful delegation of power.

Without constituting an unreasonable interference with interstate commerce or depriving of property without due process the state may require a contract carrier in interstate commerce to prove financial responsibility.<sup>32</sup> And it appears that within the limits of reasonableness contract carriers may be supervised by the state as to accounting, schedules, service, method of operation; be re-

quired to make reports and furnish information to the public service commission, and submit to general supervision and regulation in their relations to the traveling and shipping public.<sup>33</sup>

Finally, the hand of public authority may be laid heavily upon the contract carrier through taxation. Valid are the Oklahoma tax requirements of a  $\frac{1}{2}$ -cent mileage tax for contract carriers,  $\frac{3}{5}$ -cent for common carriers, and exemption for a list of specified special operators; application fees of \$100 for contract and common carriers, and \$10 for the special class; a graduated capacity tax exacted of all carriers,<sup>34</sup> and regular license fees required of all automobiles in Oklahoma. The court reasoned that (1) payment of the tax by the interstate contract carrier involved was predicated on use made or to be made of the highway; (2) exemption of the special class from the mileage tax rests on a distinction between this class and other carriers and does not discriminate against contract carriers; (3) the mileage tax relates directly to highway use, and a higher mileage tax on contract carriers than on common carriers is justified because it is more expensive to inspect and supervise contract than common carriers; (4) calculating the capacity tax on the basis of maximum load rather than on manufacturer's rated capacity prevents abuse by the carriers using trailers, thereby increasing the rated capacity possibly three-fold; (5) to protect safety and convenience of the public the state may require even of interstate trucks such taxes as will pay for administering the regulations and constitute a fair contribution to the costs of highways and on these grounds the Court denied that the taxes in their

<sup>31</sup> 274 U. S. 135 (1926).

<sup>32</sup> See note 27 above.

<sup>33</sup> See note 24 above.

<sup>34</sup> And in case of appellant contract carrier, applied to maximum load rather than to manufacturer's rated capacity of vehicle.

aggregate constitute a burden on interstate commerce or deprive plaintiff of property contrary to due process, and dismissed the complaint.<sup>35</sup>

*IV. Stephenson v. Binford—  
Contract Carriers Slow Down!*

*Stephenson v. Binford*<sup>36</sup> constitutes such a significant mile-post in contract carrier regulation as to warrant a statement of the essential provisions of the Texas motor carrier act involved before considering the reasoning of the Supreme Court interpreting the act.

Declaring in its general policy that motor carrier transportation of passengers and property over the highways is affected with a public interest, that increase in highway travel and hazards necessitates rigid regulations to promote safety and preserve the highways, *that transportation of property on the highways should be restricted as required by general public interest, and that all transportation agencies of the state should be so correlated as to serve best the interests of the general public*,<sup>37</sup> the Texas motor carrier act of 1931 recognizes contract carriers as a class separate from common carriers, prescribes a permit for the former and a certificate for the latter, and forbids issuance of a certificate to any person operating as a contract carrier, or a permit to any person operating as a common carrier.<sup>38</sup>

The Railroad Commission must, after a hearing, deny the permit for contract

carrier service if it is convinced "that the proposed operation of any such contract carrier will impair the efficient public service of any authorized common carrier or common carriers then adequately serving the same territory."<sup>39</sup> The Commission may regulate the operation of contract carriers competing with common carriers over the highways, and fix the rates to be charged by contract carriers which must not be lower than those prescribed for common carriers offering the same type of service. Liability protection is prescribed for all motor carriers.

Stephenson et al., transporting goods between various Texas points under private contracts specifying the charges for the service, failed to obtain an injunction against enforcement of the act and appealed to the United States Supreme Court. Appellants<sup>40</sup> contended that (1) the measure converted them into common carriers by legislative fiat; (2) their contract and property rights were violated by the provisions which in terms or in effect affixed the public interest label to their operations; (3) appellants were denied equal protection by the provisions requiring permit of contract carriers but not of the special carriers, and by other regulations not applicable to owner-operators transporting their own goods over the highways under approximately the same conditions.

The reasoning of the United States

<sup>35</sup> *Broadway Express v. Murray*, *supra* n. 27. In *Grolbert v. Oklahoma Tax Commission*, *supra* n. 21, decided the same day, the district court saw the "issues, objects and purposes practically identical" to those in the Broadway case, and on authority of that decision dismissed the complaint in the Grolbert case.

<sup>36</sup> United States Supreme Court, Advance Opinions, October Term, 1932, 203-14. Decided December 5, 1932 by vote of 8 to 1. Mr. Justice Butler stated no grounds for his dissent.

<sup>37</sup> Italics are mine.

<sup>38</sup> Laws 1931, Texas Motor Vehicle Act of 1931, Section 6 bb. Under Section 6 (d) special permits may be issued to transporters of wool, mohair, milk, and live stock on terms deemed by the Commission as properly protecting the highways and public safety.

<sup>39</sup> Section 6 (c).

<sup>40</sup> One of appellants' counsels, Mr. La Rue Brown, an attorney for the National Automobile Chamber of Commerce and joint author of an article in *Harvard Law Review* (*op. cit.*, *supra* n. 3), is emphatically positive that contract carriers are not affected with a public interest. There is much evidence that his view is untenable.

Supreme Court can be summarized under five headings as follows:

1. *The purpose of the act.* Private use is the primary purpose of public highways; commercial use thereof the legislature may, "generally at least," withhold or allow on conditions it considers proper. One of the aims of the act is to conserve the highways, and if the legislature had further purposes which, apart from this one, were unconstitutional, that fact would not invalidate this act. This measure sets up highway regulations.

2. *The act is justified as a highway regulation.* Recently freight which would otherwise be transported by railroads has decreased because of unregulated contract-carrier use of the highways. The legislature may act to lighten this burden added by contract carriers; to do so was one of the chief ends of the provisions here attacked. It is not for the courts to determine the extent to which they tend toward their objective, "the degree of their efficiency," or their closeness to the objective sought. "*It is enough if it can be seen that in any degree or under any conceivable circumstances there is an actual relation between the means and the end.*"<sup>41</sup>

3. *Are contract carriers converted into common carriers?* No attempt is made by any provision of the statute or by the act as a whole to convert one type into another. "Certainly the statute does not say so." A clear distinction between the two types evinces the legislative intent to avoid all semblance of converting. In some instances the measure ap-

plies similar, if not identical, regulations to both types, but those properly applied to common carriers appropriately may be applied to contract carriers.<sup>42</sup> Contract carriers are not forced to become common carriers, but may continue to operate exclusively under private contracts.

While the Court thinks the relation exists between the conditions of the permit and protection against impairment of adequate common carrier service in the area, the conclusion of the legislature is binding, for the Court cannot say the legislature manifestly erred in reaching it. Impairment of railroad service necessarily adds in some degree to highway burden, and any diverting of traffic from the highways to the railroads will relieve the former and contribute to their conservation. Forbidding lower rates to contract carriers than those of railroads tends definitely to relieve highways by diverting traffic therefrom to the railroads. A substantial relation exists between the means adopted and the end sought.

4. *As to freedom of contract.* Performance of the contracts contemplates the use of the highways. The state may regulate highway use, and it would be strange law that the contracts could not be regulated so far as their performance depends on highway use. Contracts contemplating the use of highways must be considered made in contemplation of state regulatory power; and contracts existing on effective date of statute "are to be regarded as subject to future constitutional power of the state."

<sup>41</sup> Italics are mine. "Any degree" of relationship replaces the usual "reasonableness." Is not this the zenith of liberal interpretation of state power?

<sup>42</sup> The Court points out that the Duke and Frost decisions do not apply, in that the Michigan act declared all persons transporting property for hire over the highways of the state should be common carriers; and that in the Frost case California legislation would re-

quire contract carriers to obtain a certificate of public convenience and necessity, thereby forcing them to devote their property to public use, and assume the obligations of common carriers. Neither does *Smith v. Cahoon* apply, for the Florida act made no effort to separate the regulations for contract carriers from those applicable to common carriers. The Texas legislation under review avoids all these shortcomings.



While only minimum rates are fixed, and contract carriers are free to charge as much as they can get, the fixing of the minimum does constitute an interference with the freedom to contract, but not in the sense of the Fourteenth Amendment.

5. *As to equal protection.* Permitting the Railroad Commission discretion to issue special permits does not deny equal protection to contract carriers, because the attorney general and Railroad Commission have expressed the view that special permit recipients operating as common or contract carriers must comply with the provisions applicable to their respective classes. Nor does any unlawful discrimination arise from the act as applied in exempting shipper-owners from regulation. Thus the court views as only incidental the beneficial effects to railroads resulting from the permit conditions and rate-fixing provisions, both of which the court upholds as promoting public safety and preservation of the highways.

Significant as *Stephenson v. Binford* is for what it establishes, it is further important for the questions presented but not answered. Are contract carriers affected with a public interest? Could the measure, independent of its relation to conservation of the highway, be justified as a regulation necessary to protect the public service of authorized common carriers adequately serving the area? These questions the Court left aside as unnecessary to determine. In case no railroad were substantially involved, but only authorized motor common carriers, could application of the permit and rate provisions be wholly justified as highway conservation measures? Can the state require contract carriers to provide liability protection against damage

to property arising in actual operation of the carrier? The Court said that as no effort had been made to enforce the issuance provision, appellants could not complain. Since the question had not been passed upon by any state court, the Supreme Court said it "should not adopt a construction which might render the provision of doubtful validity but await a determination of the matter by the courts of the state."

#### V. Conclusions and Significance

This examination of the regulation of contract carriers warrants the following conclusions:

1. *In General.* Particular advantages of contract motor transportation over railroad freight service bid fair to become more marked when economic revival arrives. Because of (1) the enormity of truck operation<sup>48</sup> in contract carrier service, (2) the severe competition suffered by common carriers, especially railroads whose business has seriously declined and whose profits have disappeared, (3) increased congestion of traffic with greater attendant highway danger and lessened highway efficiency and preservation, we are rapidly arriving at a consensus that contract carriers are affected with a public interest, and therefore should be regulated. The railroads, motor common carriers of property, those taxpayers who ultimately finance the highways, and finally contract shippers are the logical interest-groups to urge the regulation of contract carriers.

Constitutional guarantees most frequently invoked in the litigation are due process and equal protection of law; the freedom of interstate commerce from state-imposed burdens; and, of course, most important, freedom of contract.

<sup>48</sup> In the last six years registered trucks in Texas increased 300%: from 65,000 in 1924 to 206,000 in 1930. An instructive survey of the highway transportation

problem in Texas is presented by the district court for the southern district of Texas and stated at length by the United States Supreme Court in *Sproles v. Binford*, *supra* n. 30.

2. *As to the law established to date.* Until the Oklahoma act of 1929, statutes seeking to control contract carriers failed to name them or to recognize them as a class apart from common carriers; these statutes were held invalid. The *Frost*, *Duke*, and *Smith v. Cahoon* decisions mark the most significant distinction for the regulation of contract carriers—namely, that they cannot be required to prove public convenience and necessity for proposed service as a condition to operate. Such a requirement would inevitably imply a transformation<sup>44</sup> into common carriers against the will of the contract carrier and in violation of due process.

Following the law established in the three cases just referred to,<sup>45</sup> several states have enacted statutes recognizing contract carriers as a separate class, and granting them *permits* or *licenses*, for which proof of public convenience and necessity for service is not required. But the Texas statute directs the denial of the permit, if the Commission is convinced the proposed contract carrier service will impair the efficiency of any common carrier adequately serving the area concerned. Such a condition is based on the obligation to regulate all transportation facilities in the best interest of public welfare, to preserve the highways, and to promote public safety. With railroads and motor common carriers in the financial doldrums, and the increasing burden and congestion on highways, any commission could deny a large proportion of applications for permits, and it would be extremely difficult

to prove the commission in error. The permits would be denied because of *adequacy of existing service*, a prime factor widely recognized in denying certificates of public convenience and necessity to motor common carriers. Certainly this basis of granting the permit, approved by the Supreme Court in *Stephenson v. Binford*, makes the permit approach closely the certificate of public convenience and necessity.

By conditioning the issuance of contract carrier permits to commission satisfaction that proposed service will not impair that of common carriers adequately serving the area, the Texas statute seeks to divert traffic from the highways to the railroads, and thereby conserve the highways. Likewise is highway conservation encouraged by prohibiting contract carriers from charging lower rates than those of railroads for similar service.

The state may require an applicant for a permit to prove that he is financially responsible for furnishing the service he proposes, that he has paid the fees, and that he has complied with the regulations, especially those relating to public safety and preservation of the highways.<sup>46</sup>

Liability protection can be required of contract carriers only to the extent of protecting third persons against personal injury and damage to their property, not for protecting passengers or cargoes carried.<sup>47</sup> But in providing regulations for promotion of safety and preservation of the highways the legislature has a wide range of power in the

<sup>44</sup> Some consideration of what does transform contract carriers into common carriers appears in the writer's book cited in note 21 at pp. 48-9.

<sup>45</sup> Oklahoma legislated in 1929, after the *Duke* and *Frost* decisions and before the *Smith v. Cahoon* decision.

<sup>46</sup> *Stephenson v. Binford*, *supra* n. 36; *Continental Baking Co. v. Woodring*, *supra* n. 23; *Sproles v. Binford*, *supra* n. 30.

<sup>47</sup> *Continental Baking Co. v. Woodring*, *supra* n. 23. This pronouncement is in line with that of the Supreme Court in *Sprout v. South Bend* (*supra* n. 24), dealing with insurance as applied to an interstate common carrier of passengers. Insurance features of the Florida act of 1929 and of the Texas act were not passed upon by the Court in *Smith v. Cahoon* and *Stephenson v. Binford*.

exercise of which scientific exactness as a criterion of power cannot be required.<sup>48</sup>

Gross and net weight limits may be fixed for contract carrier vehicles, and a higher limit allowed for common carriers than for contract carriers;<sup>49</sup> the state has wide discretion in fixing size, width, and total weight limits, and may exempt busses and specified owner-operated vehicles from the weight limits prescribed for all motor vehicles operating on the highways.<sup>50</sup>

Valid forms of taxation applied to contract carriers and common carriers in intrastate or interstate commerce are the permit application fee of \$100, regular license fees required of all motor vehicles in the state, a graduated carrying capacity tax,<sup>51</sup> and a mileage tax.<sup>52</sup>

The state may protect railroad and other common carriers by denying permits to contract carriers where to grant them would impair the efficiency of common carriers adequately serving the area concerned. Such a policy is warranted by obligation of the state to regulate all transportation facilities in the best interests of public welfare, and by the diversion of traffic from the highway, thereby preserving the highway and promoting public safety.<sup>53</sup>

<sup>48</sup> *Sproles v. Binford*, *supra* n. 30.

<sup>49</sup> *Broadway Express v. Murray*, *supra* n. 27; *City Grocery Co. v. State Road Department*, *supra* n. 28.

<sup>50</sup> Texas act of 1931, Section 3 (a), upheld in *Sproles v. Binford*, *supra* n. 30.

<sup>51</sup> The United States district court held valid this form of tax as applied to interstate contract carriers in Oklahoma (*Broadway Express case*, *supra* n. 27), but the Supreme Court decision in *Interstate Transit Co. v. Lindsey*, 283 U. S. 183 (1931), held invalid a privilege tax graduated according to carrying capacity of busses operated in interstate commerce.

Often has the interstate contract carrier appeared in the regulation. Invalidity of the Michigan effort to require a certificate of Duke did not depend on the interstate character of his operation, and this is emphatically evinced in the Frost opinion. Contract carriers doing interstate business must obtain the permit or license (*Broadway Express case*, *supra* n. 27). Load limits applied alike to contract vehicles in interstate

Likewise through restrictive size and weight limits on motor trucks can the state favor the railroads.<sup>54</sup> Finally, by fixing minimum rates for contract carriers not lower than those prescribed for common carriers<sup>55</sup> with whom they are competing, the state possesses an effective weapon with which to defend the railroads engaged in economic warfare with contract motor carriers.

3. *As to further regulation.* As the *Duke*, *Frost*, and *Smith v. Cahoon* decisions stand like sentinels guarding the left road closed to state efforts at regulating common and contract carriers without distinction, so do *Continental Baking Co. v. Woodring*, *Sproles v. Binford*, and *Stephenson v. Binford* take positions as escorts ushering the states into further fields of constructive, constitutional control of contract carriers by statutes embodying the principles announced.

More influential than the other two, the *Stephenson* decision has already become a recognized landmark from which regulation is taking its cue. The Supreme Court of Montana has modified its earlier position relative to private motor carrier regulations, and three cases in the Colorado Supreme Court<sup>56</sup>

and intrastate commerce are valid (*Sproles v. Binford*, *supra* n. 30.) Liability protection (*Continental Baking Co. v. Woodring*, *supra* n. 23) and financial responsibility may also be demanded (*Broadway Express case*). In taxing contract carriers operating interstate, the state can exact only an amount compensatory to the facilities furnished (*Broadway case*). Regulation of interstate motor transportation in 1931-32 is treated by the writer in *United States Law Review*, June and July, 1933.

<sup>52</sup> *Broadway Express case*, *supra* n. 27.

<sup>53</sup> *Sproles case*, *supra* n. 30.

<sup>54</sup> *Ibid.*

<sup>55</sup> *Stephenson v. Binford*, *supra* n. 36.

<sup>56</sup> *Bushnell v. People*, *People v. Montgomery*, and *McDill v. Northeastern Motor Freight, Inc.*, reported in *Public Utilities Fortnightly*, March 30, 1933, Special Section, 432-33. A timely article on approaching restrictions of contract carriers is Greenleaf and Teviotdale, "The Coming Curb on Contract Carriers," *Public Utilities Fortnightly*, March 2, 1933.

have been decided in keeping with the Stephenson decision. In the 1933 session six legislatures have enacted regulatory measures which include contract carriers,<sup>87</sup> and other states will probably soon do likewise.

Developments to date indicate clearly the direction regulation is likely to take in the future; and they invite speculation as to the extension of the regulatory principles established: (1) To promote public safety and preserve the highways for their primary purpose, how far will the state go in restricting the number, weight, and size of contract carriers? (2) Can and will the state set up comprehensive regulations for service by contract carriers, as it has done for common carriers?<sup>88</sup> (3) Will the doctrine of liability insurance for protecting third persons and their property be expanded to include cargo insurance? (4) Will the railroads be allowed to enter the field of contract transportation by motor, as for

some years they have been taking over common carrier transportation by motor?<sup>89</sup> (5) When Congress establishes regulation of interstate motor transportation will contract carriage be included, and if so, to what degree will regulation of contract carriers as developed by the state influence the congressional plan of control?

To the first inquiry only necessity and reasonableness can be set as a limit. As to the third, we can expect the cargo insurance requirement to be permitted so far as intrastate contract operation is concerned, and possibly interstate as well, until and unless Congress regulates the latter type. It is the writer's opinion that, when Congress regulates interstate motor carriers, contract carriers will be included, and state developments with respect to contract carriers will be largely adopted into the federal regulations. To questions two and four, the writer would answer emphatically in the affirmative.

<sup>87</sup> Maine, Minnesota, Nevada, Oregon, Indiana, and Utah. (*Public Utilities Fortnightly*, June 8, 1933, Special Section, 738).

<sup>88</sup> See the author's "Motor Carrier Service and

Rates," in *Cincinnati Law Review*, May, 1929.

<sup>89</sup> Chapter 13 of the writer's book cited in note 21 *supra*; and his "Recent Trends in the Bus v. Rail Case," *Bus Transportation*, December, 1931.



## The Iowa Conservation Plan: Its Bearing upon General Land Planning

By JACOB L. CRANE, JR.

TWO years ago the Iowa Legislature adopted a joint resolution<sup>1</sup> directing the State Board of Conservation and the State Fish and Game Commission jointly to set aside a \$25,000 fund for the purpose and to prepare a comprehensive plan which "when completed shall constitute a definite and well-ordered twenty-five year budgeted program toward which the various funds available for conservation in Iowa may be concentrated and spent in an orderly and scientific development of the natural resources, recreational areas and park systems of the whole state," and to engage a planning consultant to supervise the preparation of the plan. This movement had been generating in Iowa for at least a decade and it was crystallized through the efforts of the members of the Board and the Commission, with support from many individuals and organizations.

While the original proposal emphasized, on one hand, the selection and development of state parks, and, on the other hand, the conservation of wild life, both the authorization of the legislative resolution and the factors entering into the various problems dictated that a much wider field should be covered. It was evident from the start that such matters as land-use planning, erosion control, woodland preservation and reforestation, and the conservation of surface waters particularly would have to be included in the plan. Hence, the

project became from the start a general conservation-planning enterprise and it has developed into a plan comprising many of the basic elements for comprehensive state planning.

To carry out the work it was necessary to organize a large and varied staff made up of specialists from many fields, including biologists, foresters, fisheries technicians, engineers, landscape architects, geologists, archaeologists, and sanitarians. From the point of view of the plan itself and its effective operation great importance has attached to the directing and coordinating of the findings of these various specialized scientists into one set of integrated conclusions. It was a job of re-integration engineering, bringing together again the work of the specialists which had become more or less isolated during the course of their scientific investigations. In building up the personnel for the survey and planning work, the country was scoured to secure the best men available. Seldom, if ever before, in this country has so varied and skilled an assembly of talent been set to work on a coordinated conservation-planning project. Through the use of 1,200 questionnaires, and by drawing on individuals and organizations qualified to give certain types of assistance, more than 1,000 persons contributed to the survey in one way or another.

As finally submitted, after a year and a half of work, the *Report on the Iowa Twenty-five Year Conservation Plan*<sup>2</sup> deals

<sup>1</sup> 1931 Iowa Acts, ch. 337.

<sup>2</sup> Prepared for the Iowa Board of Conservation and Iowa Fish and Game Commission by Jacob L. Crane,

Jr., Consultant, and George Wheeler Olcott, Associate, 1933.

with matters ranging all the way from Indian archaeology to comprehensive land planning. The geologic influence and structure, a review of the remnants of Indian life, and an outline of the occupation of the State during the last 100 years are included in a chapter on the historical background. Discussions of the land and water area, the landscape, the climate, and the character and composition of the people lead up to quite elaborate studies of the past and prospective growth and distribution of population. These shifts in the State's population are particularly illuminating and fundamental for purposes of land-use planning. For example, more than half the counties in the State were losing in total population during the 1920-30 decade. This flow, which in general has taken a northwesterly direction, reflects the movement from country to factory towns.<sup>3</sup> But, while important shifts in population density have been going on and still continue, the prospect is that Iowa will have a well-balanced and relatively even distribution of population.

The conservation of the soil, Iowa's basic natural resource, involves primarily several methods of attack on the problem of controlling erosion. The most urgent conservation problem pertains to the preservation of the remaining 2,000,000 acres of woodland and the reforestation of an approximately equal amount of cut-over lands. Two types of reforestation measures are proposed: (1) by natural, voluntary, but controlled, regrowth on lands no longer farmed, and (2) by planting selected varieties of trees. In both types the State is taking a hand but mainly to aid the land owner in various ways rather than to carry out the work in full.<sup>4</sup>

Here, and at many other points in the

conservation program, the most serious difficulties revolve around the situation of the landholder whose tenure is insecure by virtue of the danger of mortgage or tax foreclosure. If the insurance company, the bank, the county, or some other tenant is going to get the farm next year or the year after, the present landholder is not in a position to conserve woodlands, to rotate crops properly, and to check erosion in the way that he himself would wish to if he were secure in his tenure. He must, for example, plant the immediately profitable cash crop, sell the woods to commercial buyers, and defer reforestation and erosion control. Hence, these fundamental conservation problems overlap into the intricate field of agricultural economics and administration for their eventual solution, and call for the cooperation of all agencies of the State. This cooperation will be further promoted by general land and cover surveys, which are already well under way in several counties and by land utilization surveys, to be discussed in more detail later, which will supply the economic background for much of erosion-control and woodland-conservation programs.

The conservation of surface waters is extremely important in Iowa and it constitutes a major element in the conservation plan. The program includes the restoration of many drained lakes and marshes, the protection and improvement of some 60 existing lakes, the construction of perhaps 30 artificial lakes, and the improvement and control of streams and stream flow. Straight forward but highly technical measures are set up for conserving and promoting the production of fish and game and, in fact, for all forms of native wild life.

<sup>3</sup> The *Report* carries this analysis further, showing by a series of maps the increasing influence of the larger

towns and the industrial areas.

<sup>4</sup> *Report*, pp. 45-6.

Again these projects interrelate very closely with such general conservation measures as erosion control and woodland conservation.

A new classification is set up for "state parks," as they have been generally called heretofore. Some 70 to 80 sites of outstanding interest and beauty, where the value of the area would be injured by large crowds stampeding through them, are classified as "state preserves." They include historical points, points of scientific interest, from geological, botanical, or zoological standpoints, outstanding scenic areas, smaller lakeside reservations, and seven of the finest remaining forest tracts. These are set up as state preserves, to have arrangements for picnicking, for some forms of recreation, and for limited development; but they are not proposed for mass use. In recognition of the pressure of demand for more extensive recreation facilities to be provided by the State, such as swimming, boating, vacationing (inns and cabins), etc., about 17 sites are designed for classification as "state parks." In effect, these areas are state preserves within which, on limited areas only, the more important recreational elements are introduced. There are many reasons for this classification in Iowa, among them being the considerations that 17 well-distributed and highly developed state parks will take care of the requirements on a geographic basis; that moneys available for this type of development must be concentrated in a relatively few sites rather than being spread around over too many half developed areas; and that these state parks are aimed to draw into them the crowds which might otherwise overrun

and destroy the essential character as well as the value of the state preserves.

Tying together the state parks, state preserves, and state lakes, and taking advantage of several thousand miles of scenic location, a system of scenic highways has been laid out for consideration by the State Highway Department. In connection with the scenic highways and other main roads, suggestions are made in the *Report* for numerous roadside parks which, it is anticipated, will be provided eventually at intervals of 20 to 40 miles along all primary highways. A program for controlling and beautifying the roadsides is set up. Further, many sites have come to light during the survey which are not qualified for state action and many of which are suggested for acquisition by municipalities or counties, in some cases in collaboration with the State. This outline touches only the main features of the plan which is necessarily elaborated into hundreds of details and supplementary items.

In the field of general land planning, a state-wide "land and cover" survey is projected as the basis for all future work. This land and cover survey is to include the completion of the county soil maps, completion of the topographic surveys, detailed woodland and erosion data, land economic factors, careful examination of surface waters from several standpoints, information on game cover and wild life, and much additional data on the fisheries situation.<sup>5</sup> It is proposed that the several state and federal agencies involved in these various surveys join forces, in so far as it is feasible, on the general land and cover surveys, pooling funds and personnel and technique. The State will necessarily carry a large

<sup>5</sup> Several of these specific surveys are well on the road to completion; others have barely been started, while still others exist only in prospect. The *Report* of the Iowa Conservation Plan has focused attention not only

on the great value of such studies but also the need for their coordination in the interests of economy and the effective functioning of the plan.

part of the cost. The land and cover survey is to comprehend, or to coordinate, in one integrated project all physical and economic factors upon which specific, finely adjusted general and local land-use and land-development planning must be based.

Dovetailing closely with both the specific projects of the conservation plan and with the program for general state planning and land planning, the problem of controlling land use on a rational basis emerges as the key to the whole future of Iowa in this field. After reviewing many different possible devices, police power guidance of land use is suggested as the soundest type of measure for certain purposes. Zoning is definitely proposed in the *Report* to regulate roadside development, to guide commercial land uses under county action, and to protect the borders of state lakes and state parks. Further, it is suggested that the long-term conservation of Iowa's woodlands can be accomplished eventually only through the exercise of the police power to prohibit the cutting of woods except with state sanction and under state supervision, in the manner long used in Europe. Finally, on the whole problem of rational guidance of the use of farm lands, zoning under state supervision is suggested. Bills have been drafted and are under discussion, but none is yet in effect.

Even in Iowa, where there is comparatively little submarginal farm land, the critical problem of balancing production to the demand for farm products requires that the unsuitable land be taken out of cultivation. And the elimination of these submarginal lands is also critical to erosion control, to the conservation of surface waters, and to the woodland conservation program. For the state-wide protection and bene-

fit of the farmers themselves it is suggested that, by zoning measures, the land unsuitable for cultivation be distinguished from that which may properly be used for farm crops. This applies particularly, of course, to lands which will not revert to the state but which retain some economic value to the private owner for timber cropping, pasture, game cropping, or for other crops not now so susceptible to overproduction. Each landholder hesitates to keep his semi-marginal land out of cultivation, since his action alone only makes the situation better for those who do crop their semi-marginal lands. Zoning, to distinguish between eligible and non-eligible farming areas, would place all landholders on the same basis in rationally balancing production and consumption. Zoning on such a state-wide basis could help all owners to accomplish what they cannot effect individually. It would not supersede, but would work in conjunction with, other measures of an economic nature, such as the domestic allotment plan and federal or state participation in the leasing or purchase of submarginal land throughout the country. In fact, the equitable adjustment of such controls as between the farm with a little and the farm with a large proportion of socially uneconomic land will require state action to authorize trading better land for poor land, leasing, or other direct or indirect compensatory measures.

All the land-survey and land-use-planning proposals are based on the assumption that, for the time being at least, the great bulk of Iowa's land will remain in private ownership. Nevertheless, the tendency of agricultural lands to return to public ownership is evident in Iowa, although to a much less degree than in many other states. No titles have yet actually reverted to public



agencies, but huge numbers are threatened with tax reversion. In any case, the principle of guiding the use of rural land through zoning, which is now so well established for controlling urban property, seems to be a logical sequence, in view of the present chaos in the whole problem of land utilization. At least, a generalized national land utilization plan is obviously essential to establishing a sound land-use plan for any one state.

Funds to support the program outlined in the *Report* are to be derived from many sources. The conservation plan includes a definite budgeted program, covering several specific projects. For the most part these estimates have been constructed on the basis of the present appropriations to the various departments in which the projects fall, and the total cost is spread over the 25 years contemplated for the fulfillment of the plan. In certain cases, of course, where more speedy action is desirable in the interest of economy, as for instance in the purchase of land while prices are still low, this fact has been indicated and certain steps recommended. The plan also carries suggestions concerning possible additional sources of revenue for the various projects, such as admission fees to the state parks, increased license fees, or use of a portion of the automobile and gasoline tax income for this work. On the whole, the costs have been kept to a minimum and it is estimated that the plan could be completely financed "if once a year each family in Iowa contributed fifty cents." Surely this is a most reasonable

figure for financing a project which, together with the background studies, really constitutes comprehensive state planning, with the various state agencies involved becoming in effect a state planning commission or department.

It is particularly interesting just now to find that the Iowa conservation plan will unfailingly work for enormous economies. Practically every project, whether it involves a specific site or an administrative problem, bears upon several phases of conservation and state planning, and the whole program is one of closely interrelated elements. While not officially "fixed" by legislation adopting the plan,<sup>6</sup> the program is in process of execution at many points, such as the construction of artificial lakes, lake level control, forest conservation, expansion of erosion control work, etc. In some of these fields, of course, the plan supplements and stimulates important work which had been going on previously. The material of the conservation plan greatly aided the organization of a closely-knit program for the civilian conservation corps project—a program in which each item is part of a long-time, balanced plan with assured public value, and the first state program to reach and receive the President's approval. Thus, at one stroke, the whole conservation plan project was justified. Further, the plan will receive through this civilian corps work a great impetus and push forward. Iowa, by pioneering in conservation planning, is moving in harmony with the general trend toward state planning.

<sup>6</sup> At the time of writing this article, however, several items in the legislative program suggested in the *Report*

had already been introduced and were under consideration by the 1933 Legislature.

# The Value of the Service: Its Various Meanings and Uses

By ELEANOR HEYMAN

## *The Concept of Value of the Service*

THE term "value of the service" has been given so many varying interpretations that it has come to be regarded as a catch-all for every doubt concerning the validity of costs in rate problems. At times, one is tempted to think of it as a vitamin, its exact composition unknown, but its absence or insufficiency indicated by its effects. Economists, judges, and those speaking for the utilities themselves have occasionally attempted to define the term, but the results of their efforts show no unanimity of opinion.

Competition forms the kernel of some definitions of "value of the service," such as the one offered by the Rate Research Committee of the National Electric Light Association,<sup>1</sup> which holds the value of the service to be represented by the amount a user would have to pay for the same or equivalent service under fair but not destructive competition. Cabot,<sup>2</sup> too, links competition with value of the service. On the other hand, competition may be excluded entirely in considering value of the service. Pigou identifies the concept only with conditions of monopoly, the least taint of competition serving to divorce the rate under consideration from the value of the service principle. He looks upon this principle as a type of discrimination in-

volving different prices to different classes of consumers, and coming into existence as the result of monopolistic powers.<sup>3</sup>

Just as there is disagreement along the economic front, so even greater confusion exists in the ranks of the judiciary and regulatory bodies, and the major part of this paper will be taken up with a discussion of court and commission cases involving the value of the service principle. Not only is the meaning of the concept indefinite, some identifying it with "charging what the traffic will bear,"<sup>4</sup> and others with abstract notions of reasonableness,<sup>5</sup> but grave doubt exists as to the legality of its application, especially in cases where the utility would not earn a fair return. The United States Supreme Court, in the Brooks-Scanlon case,<sup>6</sup> stated: "Even if it be established that the consumer pays more for the service than it is worth, the utility cannot be compelled to furnish it at less than cost." The Wisconsin Supreme Court<sup>7</sup> cited this case in refusing to allow rates to be reduced when they were yielding only a fair return, even though it was claimed that the rates were disproportionate to the value of the service rendered. In spite of the vagueness of the concept and the Supreme Court decision against its use in 1920, it has been applied, or at least

<sup>1</sup> N. E. L. A. Report, 1914, p. 11.

<sup>2</sup> "Public Utility Rate Regulation," 7 *Harvard Business Review* 257-266 (April, 1929).

<sup>3</sup> *Economics of Welfare* (London: Macmillan Co., 1929), p. 290.

<sup>4</sup> *Re Omaha & Council Bluffs S. Ry. Co.* (Neb.),

P. U. R. 1925 D 744; *Denver Union Stockyard Co. v. U. S.*, P. U. R. 1932 C 232.

<sup>5</sup> *West v. United Rys. & E. Co.*, 142 Atl. 870 (1928).

<sup>6</sup> *Brooks-Scanlon v. R. R. Commission*, 251 U. S. 396 (1920).

<sup>7</sup> *Wisconsin-Minnesota L. & P. Co. v. Wisconsin R. R. Commission*, P. U. R. 1924 C 534.

lip service has been paid to it, in numerous rate cases. The Maine Supreme Court<sup>8</sup> accepted the value of the service rather than the probable rate of return as the controlling factor in upholding the Commission's findings. In so doing it cited *Hamilton v. Caribou Water Co.*<sup>9</sup> wherein this statement appears: "If the rates established represent the maximum value of the service to the consumer, it cannot be said that they are confiscatory as to the company whatever may be the result upon its returns."

Most of the regulatory bodies using the phrase "value of the service" have not attempted to define it, but, although they have dispensed with definitions, they could not so easily evade the necessity for finding measures of the value of the service. In order to state with any degree of credibility that a given rate exceeds the value of the service, there must be some means of showing the difference existing between the consumer's evaluation and the rate in effect. Declining patronage is the most convincing measure of the difference between the value set on the service by the consumer and the rate charged, for when rates go beyond what the consumer fixes as the maximum value of a utility service to him, he ceases to use it. The decreased patronage may have been attributable to various conditions, such as general business depression, obsolescence of the art, the presence of competitive alternatives, or the decline of the community which the utility serves. These will be discussed subsequently. Another criterion used by commissions in determining the value of the service has been the rates charged for similar service under comparable conditions and these measures will be the subject

of the second part of this discussion. Finally, consideration will be given to the various uses to which the concept is put in regulatory technique, such as the protection of a vested interest, the reduction of rates in conformity with ability to pay, and the field in which the concept has found perhaps its widest application, the distribution of the rate burden among the various classes of consumers.

#### *Declining Patronage as a Measure of Value of the Service*

This group of cases includes those in which declining patronage was held to be evidence of a rate exceeding the value of the service. It may have resulted from any of the conditions mentioned above, or merely from the fact that the rates were too high and more than people were willing to pay. We shall consider this last type first. In *Re Pacific Tel. & Tel. Co.*<sup>10</sup> the Oregon Commission used the amount of decreased patronage as an index to determine exactly the difference between the value of the service and the rates. However, such exactness is likely to be delusive. In the previous year, a rate increase had been granted,<sup>11</sup> and the Commission, which was of a different composition at that time, stated that the cost of the service was the only practicable measure by which to establish remunerative rates, although the value of the service to some of the patrons might be less than the rates fixed. Since the enactment of the new schedule, however, the patronage of the utility diminished by 11%. Therefore, the Commission decided that this fact, when considered in connection with the normal growth which should have been enjoyed by the utility and its customers, proved the value to be 11% be-

<sup>8</sup> *Gilbert Gay et al. v. Damariscotta-Newcastle Water Co.*, P. U. R. 1932 E 300.

<sup>9</sup> P. U. R. 1922 E at 804.

<sup>10</sup> P. U. R. 1923 A 531.

<sup>11</sup> *Re Pacific Tel. & Tel. Co.*, P. U. R. 1922 C 248.

low the condition which should obtain. In the case of a telephone company the difficulty for the remaining subscribers lies not only in the possibility that rates may be increased further, or that the service may deteriorate because of the decreased revenue, but also that the service becomes less valuable to them as more subscribers discontinue its use. This fact, coupled with the loss of revenue, the Commission predicted, would tend to remove the telephone from the various communities of the State. In *Re Chicago Rapid Transit Co.*,<sup>12</sup> it was brought out that after a previous rate reduction there had been a vast increase in patronage, but the return, although greater than before, was still insufficient. The Company applied for a rate increase, but the Commission with greater foresight and hindsight than the Company, refused permission, not only because of the vested interest that had been created, but also because it saw no reason to believe that conditions would not grow worse again, as they were before, under the proposed rates. The Oregon Commission<sup>13</sup> stated that rates should not be fixed so high as to yield specific returns where the resulting rates would be above the value of the service, and would be in and of themselves unreasonably high, since the effect would be to decrease consumption to such an extent that the utility would derive less revenue than from the existing rates.

Numerous commissions have felt that lower rates may be applied, to the benefit of the utility, as well as to the benefit of a greater number of consumers than might otherwise have been served. This is especially true in a competitive situation. In *Re Colorado Springs Light, Heat & Power Co.*,<sup>14</sup> the Colorado Commission

refused to raise rates to the point at which theoretically a fair return would be yielded, holding that the value rather than the cost of service must govern in the establishment of gas rates in that locality. It stated: "Gas is strictly a competitive fuel, and if the price is made excessive, the consumer will abandon its use in favor of some other form of fuel that may be had at a lower price." It went on to state: "So long, however, as a reduction in the number of gas consumers and in the volume of gas sales does not follow an increase in rates, the value of the service to the consumers has not been exceeded." In an Oregon case,<sup>15</sup> the Commission was of the opinion that, at least in part, the reason why the utility company was failing to earn even a fair rate of interest on its investment was that the rates exceeded the value of the service, providing no encouragement to the greater use of electricity and not producing the maximum revenue. The schedule of reduced rates ordered was said to compare favorably with the schedules of companies operating under similar conditions throughout Oregon. Electricity in that district came into active competition with gasoline and oil. Incidentally it may be remarked here that, while Pigou's distinction between value of the service and competition has made clearer certain points in theoretical analysis, as value of the service has come to be understood in rate-making, his exclusion of competition does not seem proper. The presence of competition does affect the value of the service, as it affects the value of anything else.

The question of maximizing the service is involved in many of the cases dealing with declining patronage. Since

<sup>12</sup> P. U. R. 1928 D 675.

<sup>13</sup> *Campbell v. Hood River G. & E. Co.*, P. U. R. 1915 D 855.

<sup>14</sup> P. U. R. 1918 E 960.

<sup>15</sup> *Canyon City v. Consolidated Electric Light Co.*, P. U. R. 1917 C 162.



most utilities operate under conditions of decreasing costs, the greater the utilization of their plant, the greater the amount sold, the lower can the rates be made with benefit to the utility, to some extent. From the public's point of view, the lower the rates, the more nearly do they correspond to the value set on the service by a large part of the population which must either stint its use, or do without it entirely. We come to the seeming paradox that by reducing the price of something we add to its value, since a service is worth nothing to the man who cannot pay for it. The system of promotional rates recognizes this principle in a similar way; after a certain minimum of a consumer's needs is satisfied, the service has less and less value for him, and because of this declining marginal utility he is willing to pay only a lower rate. Especially when the usual return on the investment is not being earned is the temptation great to raise rates in the hope that they will produce a fair return. Many of the cases cited<sup>16</sup> here do not involve alleged attempts by utility companies to gain exorbitant profits, but represent efforts to obtain an adequate return on their investment, that is, adequate from their own standpoint as investors, since the return they are actually receiving may be all that their plant is economically worth. In the case of a street railway the danger is particularly great. In *Re Kankakee E. R. Co.*,<sup>17</sup> the Illinois Commission held that the rate-schedule proposed for the street railway exceeded the value of the service. It was stated

that the proposed schedule contained rates considerably higher than the ones in force at the time, and that it would not yield to the company the maximum revenue, nor to the public the maximum service at the least cost. At other times, greater revenue might not be yielded by the increased rates requested by the utility, and neither would the lower rate fixed by the Commission produce a fair return; the return might remain the same, but a portion of the public is not made to suffer unnecessarily through the imposition of an excessively high rate, if the lower rate is fixed. This situation occurred in *Re South New York P. & R. R. Corp.*<sup>18</sup>, and in the *Ithaca Traction case*<sup>19</sup> which the Commission cited here, saying:

"If it were a matter concerning solely the welfare of the company, it would be only a managerial duty, but the public is also concerned, and the judgment of the Commission must be exercised, having in view not only the financial welfare of the company but the welfare of the patrons."

The Louisiana Commission stated in an analogous case:<sup>20</sup>

"The ten cent cash fare proposed by the company . . . would in many cases exceed the value of the service to the user. It would not increase the company's earnings, and its sole effect would be to throw upon the working men and women of Shreveport . . . on those unable to avail themselves of other means of transportation, an undue and unreasonable burden, without any corresponding advantage to the company."

In the case of an obsolescent utility like the street railway, consumers have

various commissions refused to authorize the rate schedules requested by the utilities because of their belief that such rates would cause the service to be dropped, or aggravate the decline in patronage that was already apparent.

<sup>17</sup> Illinois No. 15,866 (1926).

<sup>18</sup> P. U. R. 1921 D 135.

<sup>19</sup> New York Case No. 7,948 (1921).

<sup>20</sup> *Re Shreveport Rys. Co.*, P. U. R. 1929 A 88.

<sup>16</sup> In *Re Lafontaine Tel. Co.*, P. U. R. 1931 A 94; *Re Hartford Village Fire District*, P. U. R. 1931 C 230; *Re Union Tel. Co.*, P. U. R. 1924 B 674; *Re Oregon Power Co.*, P. U. R. 1919 F 620; *Benecia v. Benecia Water Co.*, P. U. R. 1923 E 273; *Re Molalla Electric Co.*, P. U. R. 1922 C 810; *Re Illinois Gas Co.*, P. U. R. 1921 B 430; *Re Central Illinois P. S. Co.*, P. U. R. 1919 E 910; *Re Castine Water Works*, P. U. R. 1924 B 529, the

continued to use the company's facilities not because their means were such as to make it easier for them to pay excessively high rates, but because their economic level did not permit of their turning to a substitute. As the Maryland Court of Appeals<sup>21</sup> stated: "There is no reason why it should transfer the entire burden [of competition from automobiles] to that part of the public which must of necessity use its lines."

The phase of declining patronage that presents the question of whether utilities should be allowed, or how far they should be allowed, to shift the burden of decline to the remaining consumers has received recognition in some much-quoted dicta of the Supreme Court. In an early rate case<sup>22</sup> the Court stated:

"If the establishment of new lines of transportation should cause a diminution in the number of those who need to use a turnpike, and consequently a diminution in the tolls collected, that is not in itself a sufficient reason why the corporation operating the road should be allowed to maintain rates that are unjust to those who must and do use its property."

Therefore the Court held that the nature and the value of the service rendered by the company should be considered in a general inquiry into rates. Although in point of fact the Court held rates that did not provide a return on the capital stock to be unconstitutional, the part of the opinion that declares that it is not to be required in every case that the rates shall provide a fair return has been quoted in fixing rates according to what was considered their reasonable worth to the public, where a fair return on fair value would have necessitated excessively high rates. In the Goldfield

Water Co. case<sup>23</sup> it was brought out that half the population was buying water from wagons, and that there were only 137 sewer connections in a town of over 4,000 inhabitants. Therefore, the Court held that the only reasonable inference was that the prevailing rates exceeded the reasonable worth of the service. The consumption of water was unduly discouraged, so much so as to interfere with proper sanitation. The Company was charging exceedingly high rates because it anticipated the rapid decline of the community, which was a mining town. Henry Edgerton, in an article on value of the service<sup>24</sup>, stated that nothing turned on the value of the service in this case, since the Court did not anticipate a reduction in earnings to follow the lower rate-schedule it ordered. But, if nothing turned on this concept, a rate reduction would not have been considered necessary. The utility might just as well have been allowed the same rate of return at the higher rates which exceeded the amount many consumers were willing to pay.

At times, the reduced patronage has resulted from general business depression. In the Wisconsin Telephone case,<sup>25</sup> the Commission stated that losses in one month were almost double the total loss of the preceding year, which it held indicated in a concrete way that rates were in excess of the value of the service to those subscribers who discontinued service or were disconnected. Partially as a result of these findings, the Commission ordered a 12 1/2% rate reduction. The same Commission in another case refused<sup>26</sup> to allow the utility to put into effect rates in excess of the value of the service to rural consumers, even though

<sup>21</sup> *West v. United Rys. Co.*, 142 Atl. 870 (1928).

<sup>22</sup> *Covington & Lexington Turnpike Road Co. v. Sandford*, 164 U. S. 578 (1896).

<sup>23</sup> *Goldfield Cons. Water Co. v. Nevada P. S. Commission*, 236 Fed. 979 (1916).

<sup>24</sup> "Value of the Service as a Factor in Rate-making", 32 *Harvard Law Review* 516 (1918).

<sup>25</sup> *Re Wisconsin Tel. Co.*, P. U. R. 1932 D 173.

<sup>26</sup> *Re Community Tel. Co. (Wis.)*, P. U. R. 1931 C 285.

the utility was not earning a full return. It held that such rates would have had the effect of further diminishing patronage. In a number of other cases which are best discussed in another section of this paper—that dealing with ability to pay—adverse economic conditions have affected the rate structure.

The obvious fault in the use of declining patronage as a test of the reasonableness of utility rates is that the service is usually monopolistic, and therefore rates may become unreasonably high before people will decline to use the service at all. In reality, however, this is not the fault of the measure, but of that which it is measuring, the value of the service. If rates must reach a very high point before people cease to use the service, that is clear evidence that the service is worth so much to them, so that in seeking reasonableness we see that value of the service does not furnish the clue. However, fixing rates with an eye to the value of the service, as determined by the diminished patronage, may be a means of avoiding further discomfort for the public, and loss to the utility at times.

*Rate Comparisons as an Aid to Determining the Value of the Service*

The question of whether, and how far, comparisons shall be allowed to influence rate-making is tremendously important because of the industrial and social repercussions it entails. Unduly high rates in one producing area may put that region at a competitive disadvantage as compared with other regions where utilities function more efficiently. The necessity for the producer to compete effectively may affect the standard of living adversely by leading

him to pay lower wages. Such considerations, of course, apply to those industries in which the price paid for utility service is an appreciable element in the cost of production. The standard of living may be involved directly, through differences in rates for various types of residence service.

Commissions have often tried to bring rates for similar services under comparable conditions to a position of equality. In *Re Kent Water & Light Co.*,<sup>27</sup> the Ohio Commission stated that the value of the service, as reflected by what other companies charged for similar service under comparable conditions, was an element to be considered. In *San Diego Land & Town Co. v. Jasper*,<sup>28</sup> the Supreme Court stated that, ordinarily, perhaps no better test of the justice of rates could be found than the rates customarily charged in localities similarly situated, although this test was not infallible. In the *Birmingham Electric Co.*,<sup>29</sup> case, after stating that the difficulty of measuring the value of the service to the consumer was no reason for denying him relief, the Court upheld the rate reductions ordered by the Commission. The Commission had compared the average bills in 41 cities where the utilities operated under similar conditions, and found the Birmingham rates unduly prejudicial to residential and commercial subscribers. At times, comparisons have been used in conjunction with other factors as evidence of excessive rates, as in *Canyon City v. Consolidated Electric Light Co.*,<sup>30</sup> and in *Columbia v. Watts Engineering Co.*,<sup>31</sup> where rate comparisons and declining patronage were held to indicate that the rates exceeded the value of the service.

Commissions, in a few instances, have

<sup>27</sup> P. U. R. 1917 D 394.

<sup>28</sup> 189 U. S. 439 (1903).

<sup>29</sup> *Alabama Public Service Commission v. Birmingham*

*Electric Co.*, P. U. R. 1932 D 148.

<sup>30</sup> P. U. R. 1917 C 162.

<sup>31</sup> P. U. R. 1915 B 921.

based rewards for good companies on the value of the service they render in relation to the rates charged for it as compared with other companies, although this is not the usual procedure. In an Ohio case<sup>32</sup> the Commission stated:

"One of the important elements to be considered in fixing a fair rate of return is the value of the service rendered the public by the company, and the facts disclose that the rates for the Lima exchange are low as compared with exchanges having less subscribers in this state. Honest, economical, and efficient administration should be commended and considered in deciding the fair rate of return."

In *Re Interstate Utilities Company*<sup>33</sup> similar considerations played a part in determining rates. However, in the Philadelphia Rapid Transit case,<sup>34</sup> when the company claimed higher rates because of its superior service, the Commission stated: "It is also true that proper comparisons furnish some test of the value of the service, but no final conclusion on that subject is possible without considering the cost of the service to the company." The rates were raised, but because the company's costs were held to warrant the increase, and not because of the evidence introduced by the company to show the comparative charges for various types of service.

The shortcomings of comparisons as criteria of the reasonableness of rates have been recognized by commissions. The New York Commission<sup>35</sup> stated: "Comparisons of rates to ascertain the reasonableness thereof, are competent evidence, but their probative force depends on circumstances, and in no case ought to be controlling." In a similar vein is the California Commission's statement:<sup>36</sup> "A comparison of rates has

little, if any, value when no evidence is submitted to show that the rates used, in a measure are themselves just and reasonable." Another requisite condition, if the comparison is to be of any value, is that there must be a similarity of operating conditions. This principle was expressed in a number of cases; it seems obvious enough, but at times absurd comparisons have been introduced, as in the Arkansas Valley case.<sup>37</sup> The Commission correctly refused to admit the relevancy of a comparison between the rates that were being attacked, and the value and the cost of the service of a proposed municipal plant. As is apparent, great care must be taken in introducing comparisons in rate cases. Occasionally commissions have not closely investigated the reasonableness of the rates used as standards, although such procedure might lead to an endless round of investigation. The working assumption is that those rates are fair, even though the next day they too may be attacked. Apparently, development of adequate cost standards would be the best way out of these difficulties. Comparisons furnish a rather haphazard measure, since so many exceptions must be made for the peculiarities of local conditions. They are not as strong an indication of excessive rates as is declining patronage which is more conclusive, but which, too, has its decided limitations.

#### *Uses of the Concept in Regulation*

*Distributing the Rate Burden.* In spite of some of the failings of rate comparisons, they are of importance in determining the proportion of fixed expenses to be borne by each class of consumers,

<sup>32</sup> *Lima v. Lima Tel. Co.*, P. U. R. 1922 A 155.

<sup>33</sup> P. U. R. 1924 A 197.

<sup>34</sup> *Re Philadelphia Rapid Transit Co.*, P. U. R. 1926 B 385.

<sup>35</sup> *Re Long Island R. R. Co.*, P. U. R. 1928 C 748.

<sup>36</sup> *Sperry Flour Co. v. Island Transportation Co.*, P. U. R. 1928 B 563.

<sup>37</sup> *La Junta v. Arkansas Valley R. L. & P. Co.*, P. U. R. 1916 D 1076.



for the producer's success in the competitive struggle may depend on the rates he is charged as compared with what other producers pay. In *Re Kansas City Electric Light Co.*,<sup>38</sup> the Commission, as a result of detailed comparisons between the rates in other cities and the ones in force in Kansas City, ordered rate reductions for the small power users who were unable to protect themselves against unreasonably high rates. Inasmuch as so great a part of the costs incurred by a utility constitute joint costs, it is difficult to determine the exact cost for which each class of consumers is responsible. In this discussion of rate classifications based on value of the service, it is assumed that the total revenue yields a fair return on the valuation; value of the service operates in the distribution of the burden among the various users of the service furnished by the utility.

In 1894<sup>39</sup> the Supreme Court upheld a legislative act which the road claimed made traffic on some of its lines unremunerative. The Court declared: "It would be practically impossible to ascertain in what proportion the several parts should share with others in the expenses and receipts in which they participated." Thus the company could not claim to earn a net profit on every section of the road. In the *Northern Pacific* case<sup>40</sup> of 1915 the Supreme Court stated that the Legislature had a wide range of discretion in its power to fix reasonable rates, and was not bound to secure the same percentage of profit on every type of business. However, in *Vandalia v. Schnull*<sup>41</sup> (1921) the Supreme Court stated that some of the road's business

ought not to have to make up the deficiencies caused by other business. Nevertheless, even after this decision, commissions have gone their own way in deciding whether equitable portions of the costs were allotted to each group of consumers.

In the development of a sufficient patronage for the utility, the principle of value of the service is often accorded recognition. As the New Hampshire Commission<sup>42</sup> said:

"It is a fundamental principle of rate theory that each class of service shall bear its share of the burden of maintaining a public service business. There would be no exception to this rule on the strict cost of service theory, but it is modified in practice, when necessary in order to secure the best results in operation, when the value of the service is the controlling factor."

Generally, the addition of low-priced business is expected to benefit the utility and ultimately the public. As the Oregon Commission<sup>43</sup> stated it:

"Except in developments involving special purposes, it is not a violent assumption that in the natural constructive process, the most attractive business to which the service is of greatest value per unit will be sought first . . . With the high class service attached to the system at rates reasonable in comparison with the value of the service given therefor, additional service may be extended to other use at lower rates, necessarily less on account of the lower value of the service, which may approach, but should in no case go below the additional cost of providing that service. The acquisition of such business, especially if it be served by facilities already used for other purposes . . . will tend to decrease the unit cost of energy to all classes previously served."

In the telephone industry especially have rate classifications been based on

<sup>38</sup> P. U. R. 1917 C 728.

<sup>39</sup> *St. Louis & San Francisco R. R. Co. v. Gill*, 154 U.S. 649 (1894).

<sup>40</sup> *Northern Pacific R. R. Co. v. North Dakota*, 236 U.S. 585 (1915).

<sup>41</sup> 255 U.S. 113 (1921).

<sup>42</sup> *Re Plymouth E. L. Co.*, New Hampshire D-388 (1917).

<sup>43</sup> *Re California-Oregon Power Co.*, P. U. R. 1917 F 214.

the value of the service to various groups of consumers. The New York Commission once declared that there would be a rate of \$75 per telephone station were the principle of classification not used. In this case (*Re New York Tel. Co.*)<sup>44</sup> the Commission stated its belief that as a community grows, the value of the service to business subscribers increases at a much faster rate than it does to residence subscribers. It said: "In fact, the value to residence subscribers soon reaches a maximum point at which a general increase in rates results in a decreased use of service, accompanied by a decline in revenue for that class of business." Summing it all up, the Commission stated:

"As to the cost factor, business subscribers being in the center of the municipality and nearer to the central offices require less outside construction . . . But it is the extensive use of the residence telephone which has resulted in making the telephone almost invaluable to the general business subscriber."

The telephone industry is an industry operating under increasing costs, so that there is an actual cost factor behind the belief that the value of the service becomes greater as more people can be reached. However, in the allocation of the cost burden between urban and rural districts, and among various classes of consumers, consideration is given to the fact that those who benefit from an increase in the number of people who can be reached should pay more for their service. This matter of pecuniary benefit derived from the use of a service has affected rates particularly in the telephone industry.<sup>45</sup> The obvious difficulty that arises is that a class to whom

the service is considered more valuable may claim that it is being discriminated against, as occurred in two New England telephone cases. In the first case,<sup>46</sup> the changes made in the rate relationships by the company's rate expert called forth much complaint. The New Hampshire Commission ordered the rates to be based on the cost rather than on the value of the service, of which latter it thought the company knew little. In the second case,<sup>47</sup> the Vermont Commission held that the rates imposed too heavy a burden on rural subscribers who realize the least pecuniary benefit from telephone service. Rural rates have received special treatment because of the straitened circumstances of the farmers.<sup>48</sup>

The fact that a service was used in profit-making activity has been held to justify the allocation of increased rates, when an increase was imperative to commercial rather than domestic users in other utilities besides the telephone. In *Re Nevada-California Power Co.*,<sup>49</sup> the Commission held that the extraordinary expense to which the Company had been put because of drought should be borne by the mining and industrial consumers, not only because of the low rates they enjoyed as compared with the domestic consumers, but also because they had reaped huge profits. However, this principle, applied in competitive industry, may lead to serious economic repercussions. As Clark<sup>50</sup> pointed out:

"Each class of consumers shall pay the costs for which it is really responsible, so far as that is practicable. This is partly a matter of justice as between consumers, but there is another and more important reason for it

<sup>44</sup> P. U. R. 1930 C 325.

<sup>45</sup> As in *Re Mountain States Tel. & Tel. Co.*, P. U. R. 1928 A 269.

<sup>46</sup> *Re New England Tel. & Tel. Co.*, P. U. R. 1926 E 186.

<sup>47</sup> *Re New England Tel. & Tel. Co.*, 136 Atl. 447 (1927).

<sup>48</sup> *Re Utah P. & L. Co.*, P. U. R. 1921 C 294; *Re Southern California Edison Co.*, P. U. R. 1925 C 235; *Re Butler Tel. Co.*, P. U. R. 1925 A 240.

<sup>49</sup> P. U. R. 1925 A 456.

<sup>50</sup> J. M. Clark, *Social Control of Business* (Chicago: University of Chicago Press, 1926), p. 401.

when the utility sells to producers a service which forms an important part of their cost of production. For then a producer's success in the competitive struggle may depend on his paying equitable rates as compared with his competitors."

But in a recent paper<sup>51</sup> Clark urged that the strategic importance of the residence user's position from the standpoint of "what the traffic will bear" be recognized. Other writers, as well, have been advocating that we dissociate this concept from its "sinister intimations of highway robbery." Philip Cabot,<sup>52</sup> in suggesting that rates be determined by the value of the service to the consumer, says that charging "what the traffic will bear" does not mean "all the traffic will bear."

Nevertheless, although all these suggestions may lead to that desirable end, maximum utilization of plant, Clark has called attention to an evil that may result. A vested interest may be created which in the long run goes counter to the interests of the road, and even society. Clark drew his example from the railroads, saying:<sup>53</sup>

"It seems probable that a great deal of low grade freight has been handled . . . for less than it really cost the roads, because only the short run variable cost was considered, and the necessity of added plant was not taken into account, at least not by the particular traffic officials responsible for the reduced rates."

In the meantime, however, certain interests are established which may become a permanent burden.

*Protection of a Vested Interest.* Although Clark limited his observation to railroads, the same unfortunate result has occurred in other public utilities. The

reliance of people on the continuance of certain low rates, that were established in order to call forth additional demand, has caused some commissions to deny applications for increases to cover the full cost of service. These commissions have felt that the utilities had their responsibilities in fixing the low rates. In *Re Chicago Rapid Transit Co.*<sup>54</sup> the Illinois Commission refused to allow the utility, which had reduced its rates and thus acquired a greatly increased patronage to raise the rates in order to bring the revenue up to a fair return. The increase was denied partly for the reason that many people had moved out to the area served by the system, relying on the continuance of the lower rates. The Idaho Commission, in an irrigation power case,<sup>55</sup> said:

"Settlers in these arid lands improved them, and built their houses in good faith, without the slightest intimation that rates would be raised to such an extent as to become prohibitive. By prohibitive is meant unreasonable to the consumer and beyond his ability to pay. To permit a rate for irrigation which would be unreasonable . . . to the settler, would result in large tracts of land returning to their arid state and settlers' losing their investments."

After considering what it called the economic value of the service rendered to the irrigation power users, the Commission decided that the capital devoted to irrigation purposes should receive a return less than that to which it should otherwise be entitled.

The installation of utilization equipment by consumers who were lured by a low rate has been held in a number of cases<sup>56</sup> to constitute a vested interest in such low rates. In *Re Napa Valley Elec-*

<sup>51</sup> "The General Problem of Cost Allocation," read before the Institute of Public Engineering on Distribution Costs, January 20, 1933.

<sup>52</sup> 7 *Harvard Business Review* 413 (July, 1929).

<sup>53</sup> *Social Control of Business*, p. 417.

<sup>54</sup> P. U. R. 1928 D 675.

<sup>55</sup> *Re Idaho Power Co.*, P. U. R. 1924 C 731.

<sup>56</sup> *Re Napa Valley Elec. Co.*, P. U. R. 1925 A 724; *Re Southern Counties Gas Co.*, P. U. R. 1915 E 197; *Re Great Western Power Co.*, P. U. R. 1923 C 545.

*tric Co.* the minimum rates were increased, but were still much lower than the rates for such service in other parts of the State. In another Idaho power case,<sup>57</sup> the Commission thought the value of the service, even to those consumers attracted by the low rates, was greater than the rates they were paying, and ordered an increase, which, however, did not meet the full cost of the service. However much these decisions may react favorably to the immediate benefit of some of the consumers, by and large they would probably have an undesirable effect on the initiative of utilities experimenting with rate reductions to promote business. On the other hand, such decisions might make the utilities consider the facts closely, before they establish rates which they cannot expect to maintain, so that the evil, from the standpoint of rate experimentation, is not unmixd. There are more significant economic results that might follow from this policy of allowing unduly low rates, which do not cover costs, to remain in effect. As may be seen from the case involving the maintenance of extremely low agricultural rates, agriculture in a particular section is given artificial protection which brings about the uneconomic development of our natural resources.

The commissions, in the cases mentioned, however, have felt that other factors were so important that the long run economic results were minimized or not considered at all. The pauperization of an entire region, the economic waste involved in the abandonment of utilization equipment, which would probably occur if the low "inducement" rates were raised, are factors worthy of consideration. The only fair solution that

seems possible is the gradual accustoming of consumers to the higher rates necessary, with the probability that the less efficient producers will drop out gradually, or that there will be some waste of the utilization equipment of those residence users who find the rates prohibitive.

*Adapting Rates According to Ability to Pay.* Lack of ability to pay would probably be a more correct phrase for the cause of rate differentials based on varying financial capacities. It is not the ability to pay that makes these differentials necessary, but the inability to pay the full costs of the service. The difference has been expressed by Owen Ely<sup>58</sup> who has indicated a distinction between "charging what the traffic will bear, and "not charging what the traffic will not bear." The basing of rates on ability to pay has engendered much discussion. Edgerton contends that the effect of railway rates based on ability to pay is to destroy the advantages of some firms by putting a premium on inefficiency.<sup>59</sup> J. M. Clark, too, warns of the uneconomic development of industry that might follow the fixing of rates according to capacity to pay,<sup>60</sup> but he says further on in the same book,<sup>61</sup> "If the prices charged for the productive factors are not low enough to call them into use they are wasted, and almost any use is better than none." This may be especially true during periods of economic depression. If it is felt that the incapacity of an industry is only temporary (And what business man does not?), then a rate reduction to conform to this reduced ability to pay may promote the public welfare and benefit the utility itself ultimately. Nevertheless, the chance remains that such action

<sup>57</sup> *Re Idaho Power Co.*, P. U. R. 1924 C 313.

<sup>58</sup> Owen Ely, *Railway Rates and Cost of Service* (Boston: Houghton Mifflin Co., 1924), p. 50.

<sup>59</sup> Edgerton, *op. cit.*, p. 545.

<sup>60</sup> *Social Control of Business*, p. 401.

<sup>61</sup> *Ibid.*, p. 458.



will only serve to maintain the redundant capital and labor of an industry, and cause a serious dislocation of our productive agents. The problem of comparative rates may become exceedingly vexing in a situation where it seems necessary to accommodate rates to the consumer's ability to pay. Decisions have differed. In *Re Western Pacific R. R. Co.*<sup>62</sup> the California Commission granted a rate increase since the proposed rates were shown to be reasonable in comparison with rates from other grain-shipping points in northern California. The Commission said: "A reasonable rate cannot be measured by the profits and losses of the shipper, for if this element were controlling, rates would necessarily decrease or increase in harmony with the selling price of the commodity transported." In another case,<sup>63</sup> in which a rate comparison was made, the Wisconsin Commission said:

"A situation might exist where it would be necessary for a densely populated unit to carry some of the costs of a sparsely populated contiguous district, because the full costs of the sparsely populated district would require a prohibitive rate for service which nevertheless it would be desirable to supply."

Then, after observing that such a condition did not obtain in the town under consideration, it pointed out that the rates there were among the lowest in the state for municipalities of comparable size, and held that the town should bear its own costs instead of foisting some of them upon Milwaukee. The attitude expressed above has been that of a number of commissions which have felt that, even though some groups of consumers are not able to pay the full costs of a service, it is nevertheless socially

desirable that it be supplied to them. In a Maryland<sup>64</sup> case the Commission stated:

"Rates were not increased to the level sought by the company, since consideration was given to evidence of the small incomes of the manual workers who made up the bulk of the inhabitants of the district involved, even though the rates did not seem excessive when compared with those charged by other utilities."

In the picturesque San Joaquin case,<sup>65</sup> much weight was given to this matter of ability to pay. The Commission said: "Earnings on a level such as contended for by the utilities seem almost grotesque when viewed against the background of economic distress prevalent in the territory they serve." The various classes of consumers paraded their economic distress, causing the representative of the large power users to say that the man who shed the most tears got the most, and then to request that the record indicate that he shed tears abundantly. Disregarding the mocking tone displayed, the Commission ordered a rate reduction, bearing in mind, as it said, the cost of service (which was evidenced by the fact that the return would meet all fixed obligations, and pay a moderate amount on the common stock), rate comparisons, and ability to pay. In a few other cases the depressed condition of agriculture affected the rate structure. However, in 1930 the Hoch-Smith resolution<sup>66</sup> was rendered ineffectual as the result of a Supreme Court decision.<sup>67</sup> Rather than outrightly call the act unconstitutional, the Court held that the Interstate Commerce Commission had misinterpreted that section of it calling for recognition of industrial conditions, and especially that of agriculture, in the

<sup>62</sup> P. U. R. 1925 D 843.

<sup>63</sup> *Re Wauwatosa*, P. U. R. 1930 A 360.

<sup>64</sup> *Patee v. Brooklyn & C. B. Light & Water Co.*, P. U. R. 1915 A 142.

<sup>65</sup> *California F. B. Federation v. San Joaquin L. & P. Co.*, P. U. R. 1932 D 310.

<sup>66</sup> 49 S. C. A. 55.

<sup>67</sup> *Ann Arbor R. R. Co. v. U. S.*, 50 S. Ct. 444 (1930).

rate structure. The Court stated that Congress had merely decided "that the depressed condition of the industry is to be given such consideration as may be reasonable, considering the nature and cost of transportation service. In a number of other cases as well,<sup>68</sup> the opinion was expressed that adverse economic conditions should not be recognized in the rate structure. In an early rate case<sup>69</sup> involving ability to pay, the Supreme Court asked:

"And if the depreciation of prices . . . be accepted as correct, will such depreciation uphold a compulsory reduction in the rates of transportation to such an extent that those who have invested their money in railroad transportation receive no compensation therefrom?"

It answered, "No". In *Re South Indiana Tel. & Tel. Co.*,<sup>70</sup> the Commission rescinded its order calling for a rate reduction when the company showed its intention of carrying the case to the Federal District Court. The Nebraska Commission,<sup>71</sup> too, stated: "Neither a commission nor a state has any power to require a utility to forego any return during periods of industrial depression, although the utility may voluntarily do so."

In a few recent cases<sup>72</sup> rates were reduced with the consent of the utilities, in view of the fact that the general economic conditions in the country had seriously affected the communities they

served. Some commissions, not daunted by decisions against rate reductions that accommodate rates to the consumers' ability to pay, have forced rate reductions during the business depression. In *Re Wisconsin Tel. Co.*<sup>73</sup> the Commission declared that the economic depression constituted an emergency, with the consequent justification for a 12½% emergency reduction of rates. It said:

"Perhaps in times of normal business activity, the factor of value of the service has less significance than at a time like this, when the purchasing power and the income of businesses and individuals have drastically shrunk."

The United States Supreme Court<sup>74</sup> set aside the interlocutory injunction granted by the Federal District Court, since the District Court had held no hearings to determine the facts. In another case<sup>75</sup> the Wisconsin Commission refused to authorize a schedule increasing the rates for residence users by about 58%, because of unfavorable economic conditions. The Connecticut Commission<sup>76</sup> reduced rates for this reason.

There is another side to this question, that which concerns the exaction of higher rates from those whose ability to pay is greater. This has occurred, to some extent, on the railroads, but the trend is away from it and toward the cost of service principle.<sup>77</sup> In a 1921 case,<sup>78</sup> the Commission admitted that, where the value of the service permits,

<sup>68</sup> *Re Juneau Tel. Co.*, P. U. R. 1921 B 382; *Grafton Rural Tel. Co.*, P. U. R. 1925 A 143; *Re Western Pacific R. R. Co.*, P. U. R. 1925 D 843; *State ex rel. Rankin v. Northern Pacific R. R. Co.*, P. U. R. 1924 D 545; *Joplin Gas Co. v. Mo. Public Service Commission*, P. U. R. 1924 D 137; *Re Kenilworth Water Co.*, P. U. R. 1921 D 95; *Brinkman v. Lincoln Tel. & Tel. Co.*, P. U. R. 1931 D 437; *Re Pacific Tel. & Tel. Co.*, P. U. R. 1922 C 248; *Asotin v. Pacific P. & L. Co.*, P. U. R. 1928 E 213.

<sup>69</sup> *Reagan v. Farmers' Loan & Trust Co.*, 154 U. S. 362 (1893).

<sup>70</sup> Indiana No. 9923, Sept. 24, 1930.

<sup>71</sup> *Re Union Tel. Co.*, P. U. R. 1922 B 448.

<sup>72</sup> *Re Alabama Water Co.*, P. U. R. 1931 B 392; *Re*

*Indianapolis P. & L. Co.*, P. U. R. 1932 C 154; *Roxbury L. & P. Co.*, P. U. R. 1932 C 122.

<sup>73</sup> P. U. R. 1932 D 173.

<sup>74</sup> *Public Service Commission of Wisconsin v. Wisconsin Telephone Company*, Advanced Reports, No. 517, Mar. 27, 1933, U. S. Supreme Court, Oct. Term.

<sup>75</sup> *Re Wisconsin Public Utility Co.*, P. U. R. 1930 A 119.

<sup>76</sup> *Selectmen of Seymour v. Seymour Water Co.*, P. U. R. 1932 B 175.

<sup>77</sup> Ely, *op. cit.*, p. 9.

<sup>78</sup> *Solvay Process Co. v. Del. Lack. & West. R. R. Co.*, P. U. R. 1921 B 667.

some high-grade commodities carry more than their share, so that low-grade commodities necessary to existence might be transported, but held that this did not establish the rule that rates should be based on the value of the service to the shipper. It is doubtful whether ability to pay has been accorded as much recognition in the other public utilities as has been given it in the field of rail transportation.

### *Conclusion*

After analyzing the "value of the service" concept and its uses, it would now be well to attempt a synthesis. The various definitions offered, rather than clearing the air, have only befogged it. Its complete identification with competition by some, and the complete exclusion of competition from the "value of the service" concept by others, as Pigou, do not seem proper, after a study of various rate cases in which the concept

has been applied. Competition may, or may not, exist in a particular situation. If present, it will affect the value of the service. In rate cases, the concept has been identified with reasonableness, and also with "what the traffic will bear," this latter phrase being associated with a gouging of the public. Of late this phrase has been coming into somewhat better repute. At any rate, it possesses the quality of directness. The greatest difficulty that inheres in "value of the service" is the plurality of definitions with which it has been saddled. The things that have been done in its name have been far from insignificant in rate-making, but the use of so ambiguous a term is to be deplored. Value of the service is a rather broad shield behind which the consumer can seek protection, but in its many uses it possesses the defects of its qualities, for therein arise the many definitions which lead to confusion and exasperation.

## The Regulation and Control of Land Use in Non-Urban Areas

By ROBERT B. GOODMAN

THE story of the "cut-overs" is by this time an old story. Before the World War there was a feeling that we would need all the land there was to feed the coming generations, and the cut-over lands would eventually disappear under the plow. It was believed that northern Wisconsin would become a great dairy empire in spite of the fact that much of the land was submarginal for agriculture. Settlement was encouraged by public and private agencies which resulted in misguided colonization. Uneconomic agricultural expansion was followed by widespread abandonment of farms even before the depression. Roads were laid out at the request of settlers, schools built with incoming population in mind, and towns created to suit the needs and whims of the new citizens. All this was done with the belief that it was good public policy to do so. No one foresaw the sudden increase in agricultural production, the effect of the truck and tractor, and the decrease in the rate of population growth. Few saw the agricultural depression coming, nor the general depression of 1929.

The North presents a picture of an unplanned, overexpanded plant built in a time of prosperity which must be paid for in part at least during hard times. However, the means of paying for it have shrunk. Instead of a forward movement of the frontier, there has been a recession. Abandoned farms were a part of the landscape until the urban depression sent people out into the country to find shelter and food. Taxable wealth disappeared as farms were

abandoned, the merchantable timber was being cut, and real estate values declined. Since the cut-over land no longer had a market, it became tax delinquent, and in time reverted to the county. On the other hand, the prosperous War years raised the plane of public as well as private expenditures, and for several years this plane was maintained.

If one can speak of an "ecology" of land use, it would present a picture something like this. Cities have developed on Lake Superior, on Green Bay, and on the large streams where sawmills and wood-working industries started the urban community. In some cases mines did the same thing. Other cities and villages are strung along railroads like beads on a string, and to a lesser extent along trunk highways. Agriculture tended to develop about these urban centers and independently on areas of good land which in turn brought villages into existence. The population map of the State shows these areas of settlement as "peninsulas" projecting northward from the central agricultural area, or as "islands" grouped in the manner described.

However, beyond these islands and peninsulas are the areas of scattered settlement, scattered because they are the remnants of former communities or the nuclei of communities which never materialized. In other cases people have moved into the wilderness because they prefer to live alone, and under our laissez-faire policy of uncontrolled settlement, no one stopped them. The well settled, compact communities on good



soil near schools and markets offer no more problems in themselves than similar areas in any other part of the State. The problem lies with the high costs, public and private, which are connected with scattered settlement, and these costs fall not only upon the local people but on the others in compact settlements or cities in the same county and on the State as a whole.

#### *Disadvantages of Sparse Settlement*

Scattered settlement means additional costs for the business conducted in the region. In one northern Wisconsin village a baker's truck delivers bread three times a week from a baker in a city 100 miles to the south. Between these two points lies a sparsely settled area tributary to the city for purposes of distribution. To the south of this city is another area with the same population, but it extends for a distance of only 20 miles. The city's volume of distribution to the south is equal to its volume to the north, but the distribution costs to the south are but  $\frac{1}{5}$  of those to the north. Both areas are agricultural. It is easy to see that marketing costs for farmers tend to correspond to the distribution costs of the cities. Even if farm crops are raised at equal costs in both areas, the cost of marketing by the farmers of the northern area will be five times as great as the cost of marketing by the farmers of the more fully occupied region to the south.

This situation becomes more accentuated in the region to the north of the city in question, if we divide it into a northern and a southern half. The northern half has only about  $\frac{1}{5}$  as much population per square mile as the southern half. In the northern portion economic conditions reduce agriculture to such a bare subsistence, and social life to such meager contacts, that the popu-

lation contracts into sparsely settled communities leaving poorer areas almost entirely vacant.

This same disadvantage of the sparsely settled region obtains in all other activities of the inhabitants. The cost of going to church, going to the doctor or calling the doctor to the home, the cost of going to the polls on election day and of taking part in civic or community activities, the cost of calling on your neighbors or having your neighbors call on you, the cost of sending children to school, the cost of local roads—all are proportionately greater as the distances involved are greater. The disadvantages of living in sparsely settled regions are only partly overcome by the building of a larger number of small schools and churches, by more doctors with fewer patients, more election places with fewer voters, more miles of road but poorer roads, smaller centers of trading. In these smaller centers there are often fewer opportunities for selection of goods, a higher cost for the articles purchased, and a lower price for the articles sold. These disadvantages tend to result in lower land values, decreasing population, and farm abandonment.

It is claimed that these disadvantages of sparse settlement are overcome by the abridgment of distance by the automobile and improved highways as compared with the horse and buggy and the dirt roads of 20 years ago. It is true that distance measured in time has been shortened tremendously. But distance has not been shortened in relative cost. The automobile costs more initially than the horse and buggy and more per year to maintain and operate. The modern, hard-surfaced roads cost more per mile to construct than the old dirt roads, and this is one of the reasons for the increased tax burden of recent years.

In the comparison between the days

of the horse and buggy with our present day of the automobile, is there a real saving in the time consumed in travel? We are living in a very different world than our fathers lived in. Our affairs are vastly more complicated. Our needs are more complex. Our system of marketing farm products and these products themselves have changed. Our social relations have grown more intricate. The activities of local governments have similarly increased in scope and complexity. All these changes require more intercommunication, more travel, so that in spite of the auto's speed on good roads, we probably consume as much time in our more frequent trips than did our fathers in their less frequent journeys on foot or by horse. In our modern life, time itself is more of a problem to us than it was to the generation which passed with the passing of the horse and buggy.

It must also be remembered that in a new community many farmers are without automobiles. For Wisconsin as a whole, almost 93% of the farmers reported passenger cars in 1931, but the five counties falling considerably below the state average were all in the north. Most of the northern and western counties were far below the state average of 34% for farmers owning motor trucks. This means that they are still more handicapped in competition with their neighbors who own cars in this motor age. In fact, the community as a whole is slowed up compared with the well settled counties where 96% of the farmers have motor cars, and the majority live on improved roads near markets and community centers.

#### *High Per-Capita Costs of Local Governments in Sparsely Settled Areas*

In a northern Wisconsin county lying in the border zone of agricultural settle-

ment, a typical gradation in population density of the townships occurs. As the density of population decreases, the cost of schools per pupil and the miles of road per farmstead increase. This is shown in Table I.

TABLE I. RELATION BETWEEN POPULATION DENSITY AND ROAD MILEAGE AND SCHOOL COSTS IN 18 WISCONSIN TOWNSHIPS

| Township | Population per Sq. Mi. | Road Mileage per Farmstead* | School Costs per Pupil |
|----------|------------------------|-----------------------------|------------------------|
| 1.....   | 29.3                   | 0.32                        | \$51.00                |
| 2.....   | 28.0                   | 0.35                        | 32.00                  |
| 3.....   | 26.2                   | 0.35                        | 46.00                  |
| 4.....   | 20.2                   | 0.40                        | 47.00                  |
| 5.....   | 17.5                   | 0.41                        | 47.00                  |
| 6.....   | 13.4                   | 0.27                        | 61.00                  |
| 7.....   | 12.3                   | 0.57                        | 53.00                  |
| 8.....   | 9.3                    | 0.73                        | 101.00                 |
| 9.....   | 9.0                    | 0.80                        | 54.00                  |
| 10.....  | 8.8                    | 0.63                        | 70.00                  |
| 11.....  | 8.6                    | 0.57                        | 60.00                  |
| 12.....  | 7.6                    | 0.86                        | 83.00                  |
| 13.....  | 6.1                    | 1.00                        | 76.00                  |
| 14.....  | 6.0                    | 0.74                        | 106.00                 |
| 15.....  | 5.1                    | 1.08                        | 99.00                  |
| 16.....  | 3.2                    | 1.26                        | 133.00                 |
| 17.....  | 2.9                    | 1.14                        | 152.00                 |
| 18.....  | 1.6                    | 2.48                        | 146.00                 |

\*Number of farmsteads is based on assumption of five persons to a family, and one family per farmstead. The total cost of government per capita in these towns for the year 1930 ranged from \$22.86 in township No. 1 to \$78.13 in township No. 18.

#### *Mendicant Local Governments*

The disadvantage of distance arising from sparse settlement is not purely a local issue, nor one that affects only the poorer communities. This might be the case if all the counties and all the towns of the state, including these poorer counties and towns, were administered on a strictly self-sustaining basis, but this cannot be.

In the larger economy of the state as a whole, highways are not only local, but are also a general need, and the education of the coming generation is as much the concern of the urban centers as of the rural school district. The preservation of law and order and of the public health is the concern of all people

of the state. Therefore, in the distribution of the general taxes and gasoline taxes, no effort is made to return the revenues to the local communities from which they are derived. Partially this is accomplished, but more generally these revenues go to the state, and from the state and highway department back to the local units according to their needs. The effect of this system of state aid makes the expenditures in each separate unit of state government a matter of concern to every other unit.

The amount of state aid distributed to local units of government has direct relation to the local property tax. If the local government functions are to be maintained in the manner to which we have grown accustomed in recent years, any reduction of these aids places a heavier tax burden on property, which the record of tax delinquency in all states indicates that property is unable to bear. The local units of state government, however, are facing heavy curtailments of these state aids.

Studies of local government costs in Wisconsin indicate the difficult situation these units are facing. Out of a total of 71, there are 16 counties in the State averaging (exclusive of incorporated villages and cities of over 1,000 inhabitants) less than 10 persons per square mile. These underpopulated counties are local governments with extensive executive, judicial, and legislative organization and functions. In 1930 these counties had a total population of less than 200,000, and the cost of local government varied from \$43.00 to \$68.00 per capita, the average cost per capita being \$49.00. These figures may be compared with 16 agriculturally developed counties having a population of nearly 600,000 in which the cost of local

government per capita varied from \$29.00 to \$40.00, the average cost being \$38.00.

In Wisconsin, counties consist of towns which have organic relations to the county because every town, village, and city ward is represented on the county board of supervisors to look after the interests of the particular locality.<sup>1</sup> Assessment of property and collection of taxes are town functions. All property taxes are collected by the town treasurer and then sent to the school districts and to the county, which in turn sends the amount levied against the county to the state in such years when a state property tax is levied. The smallest tax-levying unit is the school district, of which there may be from one to eight or nine in a town. Obviously even these units of government should have an adequate tax base and sufficient population for their support. Yet there are in Wisconsin 120 towns each with a population of less than 300 people—men, women and children.

The population of these 120 towns declined 20% between 1920 and 1930. Their average population is 200, their average number of voters is less than 100, and the average number of families about 50. These small units of government elect and support town officials, consisting of a board of three supervisors (the chairman of which represents the town on the county board of supervisors), clerk, treasurer, assessor, constable, two justices of the peace, as many highway superintendents as there are road districts, and as many school boards of three members each as there are school districts.

The towns and school districts attempt to carry on all the functions of local government, road construction and

<sup>1</sup> Counties may, however, adopt the "commission form" of government, and reduce the number of mem-

bers of the board to from 3 to 9, depending upon the population.

maintenance, building and maintenance of schools, employment of teachers, operation of school busses, enforcement of law and order, holding of elections, trying of cases and imposing punishments, outdoor and institutional relief, assessment of property, and the levying and collection of taxes. Twenty-four thousand people, say 6,000 families, divided into more than 400 separate units, are governed by approximately 2,000 officials. This fixed governmental structure becomes more irrational as the population of these areas declines. Yet, on the whole, these towns are managed with thrift. The officers get small pay and economy is jealously maintained. But the system itself is grossly inefficient.

The smaller the population and the lower the land values, the less is the available revenue from property taxes. To carry on their functions, these towns, in spite of themselves, are forced to become mendicant. They began their careers when it was anticipated that agriculture would take up and convert the cut-over lands of the State into prosperous rural settlements. This hope has failed of realization. The prosperity during the World War required of them more and more costly functions. Efforts to finance these functions after the War caused high assessment valuations and increased rates of taxation. Higher assessments and lower property values helped to bring wholesale delinquency. Yet in this respect the towns and school districts were not as distressed as the counties, because these two units of government, as well as the state, must be paid their share of the levy in full before the county is paid. The delinquent taxes are passed on to the county for collection.

In Wisconsin the state is not an important factor in the taxes on general property. It receives practically all its

revenues from incomes, sales and license fees, and only a very small fraction from the general property tax. In 1932 no state property tax was collected. However, the source of the income taxes and others is largely from the industrial, well developed agricultural counties in the southern and eastern parts of the State. In redistributing the revenues so collected, the amounts going back to the local governmental units in state aid are not in proportion to the amount collected there, but in proportion to their assumed local requirements. This is the second step in the pauperism of underpopulated towns.

A third step in this mendicancy recurs as between the states and the Federal Government. The federal revenues are raised, for the most part, in the industrial states of the Atlantic seaboard and the Great Lakes, and are expended generally throughout the nation in various forms, extending from highway construction to vocational training. Within the State of Wisconsin the federal aid is distributed locally, not in proportion to the revenue raised, but generally throughout the State in highway, educational, agricultural, and similar aids. The quota received by poorer communities is greatly in excess of their small contributions of federal taxes. This system has expanded alarmingly in recent years. In Wisconsin the grants-in-aid, derived from general taxes and distributed to local governments, increased from \$2,000,000 in 1902 to \$18,500,000 in 1930. Nationally, these total grants-in-aid from federal and state governments aggregated for the year 1902 about nine million dollars; for 1930, the total was about one billion dollars. The mendicant towns are therefore receiving assistance from the counties, from the state, and from the Federal Government. This assistance tends to transfer



the burden of their inefficiency to the centers of urban population, and to the farmers on the superior soils in the better agricultural sections of the nation. This subsidy by federal and state aids enables the mendicant towns to support a sparse population in regions submarginal to agricultural use. Yet this uneconomic subsidy adds its share to the continuing surplus of agricultural products.

In spite of all the financial assistance from outside sources, the cost of government is becoming prohibitive to the local people in the underpopulated areas of the State. The cost of government is increased as tax delinquency grows. The towns turn over the tax certificates to the county treasurer, who now has the work of advertising and selling them. After three years of delinquency, the county may take title to the land, and it becomes a part of the "new public domain." The resale of these lands or their entrance under the Forest Crop Law, the establishment of county forests and their administration and management constitute new county functions. How extensive such a burden may become is illustrated by a northern Wisconsin county in which over half the government costs are financed by state and federal aids. In the county the accumulated property tax delinquency now exceeds the annual tax levy. The face value of tax certificates now on hand for each year is as follows:

| Year      | Amount  |
|-----------|---------|
| 1916..... | \$ 2.88 |
| 1917..... | 17.94   |
| 1918..... | 42.54   |
| 1919..... | 201.80  |

|           |           |
|-----------|-----------|
| 1920..... | \$ 350.95 |
| 1921..... | 1,033.05  |
| 1922..... | 3,672.42  |
| 1923..... | 787.66    |
| 1924..... | 2,352.82  |
| 1925..... | 3,104.32  |
| 1926..... | 11,232.61 |
| 1927..... | 10,641.73 |
| 1928..... | 11,373.09 |
| 1929..... | 15,933.87 |
| 1930..... | 39,678.74 |
| 1931..... | 62,133.80 |
| 1932..... | 99,356.25 |

TOTAL.....\$261,916.47

In addition to the accumulation of tax certificates, this county has taken title to more than 200,000 acres of tax delinquent land.

However, the functions of local governments have been extended beyond the mere ownership and management of forest land. Up to the present time the two most extensive functions of local governments have been concerned with schools and roads. The third important function will be the control and regulation of land—not only the publicly owned land, but also the privately owned land. In other words, we shall consider land in the light of a public utility, thus making it controllable in the public interest. One of these public interests is the tax burden imposed upon us by uncontrolled and isolated settlement. The problem is to eliminate the scattered settlement as much as possible, or at least prevent it in the future. This latter is made possible by the Wisconsin zoning law. The zoning of regions to restricted forestry and recreational use is, however, a new undertaking and must be based upon the more inclusive objectives of well considered regional planning.

# County Zoning for Agriculture, Forestry, and Recreation in Wisconsin

By W. A. ROWLANDS

**Z**ONING in cities is a well established method of controlling the use of privately owned land in the public interest. But, such zoning regulations were confined in their application to the land within the political jurisdiction of the city. Areas adjacent to a municipality which for all purposes, except political, are parts of the city could violate every principle of orderly land use with impunity. Various devices have been tried to regulate land uses not in cities, and one of these is county zoning. In 1923 a law was passed in Wisconsin giving county boards the necessary authority to zone land outside of incorporated cities. This law was designed especially to control industrial land uses as the opening sentence indicates:

"The county board of any county may by ordinance regulate and restrict the location of trades and industries, and the location of buildings designed for specified uses and establish districts of such number, shape and area, outside the limits of incorporated villages and cities, as such county board may deem best suited to carry out the purposes of this section."<sup>1</sup>

Under this law, Milwaukee County in October, 1927 passed a zoning ordinance which affected lands in five of its towns. The 1928 report of the Regional Planning Department indicated that it was apparent zoning

had an important effect in guiding the future development of the county and in adding a certain amount of stability to land values.<sup>2</sup>

However, the law as it stood was designed particularly to aid cities to control urban land uses in future urban territory. California has a similar law; in fact, Los Angeles County zoned non-urban land before Milwaukee did, but under a special charter. In California zoning has included the regions about cities, the protection of scenic areas, and the regulation of roadside land uses, but no attempt has been made to apply zoning to agricultural or other land uses.<sup>3</sup>

## *Conditions in Northern Wisconsin Prompting County Zoning*

In Northern Wisconsin the need for controlling land uses grew out of an entirely different set of circumstances. The agricultural recession left the northern counties with abandoned farms, a shrinking tax base, tax delinquent lands, and high governmental costs, especially for schools and roads. Although there are many well-settled, compact communities with low per capita costs for highways and education, there are far larger underpopulated areas where schools are small and settlers are few per mile of road.<sup>4</sup> As a rule, these sparsely settled districts have less desirable soils, better suited to forests than to agriculture. If all such areas could be vacated and the settlers placed on the

<sup>1</sup> Section 59.97, Wisconsin Statutes, Zoning Power.

<sup>2</sup> Milwaukee County Regional Planning Department, *Annual Report*, 1928 (Milwaukee, Wisconsin), p. 44.

<sup>3</sup> Hugh R. Pomeroy, "County Zoning under the California Planning Act," 155 *Annals of the American Acad-*

*emy of Political and Social Science* 58 (May, 1931).

<sup>4</sup> See article by R. B. Goodman, "The Regulation and Control of Land Use in Non-Urban Areas", in this issue of the *Journal*, pp. 266-271.

better agricultural soils near established communities, most of the difficulties would be solved, but there is no legal procedure for moving settlers or buying them out at the present time. However, the county zoning law permits the exchange of lands acquired by tax deed for "other lands in the county for the purposes of promoting the regulation and restriction of agricultural and forestry lands." Exchange of land is also permitted under the county forest reserve law.<sup>5</sup>

The recent landward movement has increased the difficulty. Where abandoned farm houses are being rehabilitated or new settlers are moving in, there are immediate demands for school facilities and roads, to say nothing about the additional demands on the county agent and nurse, and for poor relief. There is nothing to prevent an individual from buying an isolated tract to start a little farming or to hunt, trap, or rent boats to tourists. He and his family may make more demands upon the public treasury in one year than he will pay in taxes in 20 years. The school provided for his convenience means not only local taxes but aids from the county and state, and, if a road is built for his benefit, the additional miles of town road will entitle the town to the \$50.00-a-mile state aid. Furthermore, there is also the question of preventing settlement on submarginal land and consequent farm abandonment after public money has been spent.

There is, therefore, one dominating purpose behind the proposals leading to the enactment of county zoning ordinances in North Wisconsin counties. This is to protect present property

holders against increases in local governmental costs resulting from unrestricted and uncontrolled development in the sparsely settled areas. Two other matters of considerable importance are also the concern of boards of supervisors of these counties: (1) to prevent the huge waste of financial and human resources resulting from unwise and scattered settlement;<sup>6</sup> and (2) to preserve the integrity of the county in the business-like administration of state aids. In this connection many county officials and responsible citizens feel keenly the need to continue to make economies and efficiencies in local government services wherever and whenever possible. Admittedly, educational and highway laws in Wisconsin were conceived in the spirit of the broad, liberal policy that it was the function of the state-at-large to contribute funds to the aid of the lesser units of government. Nevertheless, recently there have been many ominous rumblings in legislative halls, and some sharp editorial protests from the metropolitan and industrial districts that local governments, receiving large grants of aid from the state, "put their own house in order."

For several years the need for some control over the use of land in these areas was apparent to prevent uneconomic expenditures of public money, to keep settlers out of non-agricultural areas, and to secure a more orderly development of the land. Economists, foresters, and citizens conversant with economic conditions in Wisconsin have urged the enactment of legislation permitting the northern counties to exercise control over land development and over expenditures within their jurisdic-

<sup>5</sup> Section 2a of 59.97 and 59.98, Wisconsin Statutes.

<sup>6</sup> Noble Clark, "What Chance has a City Man on a Wisconsin Farm," *Extension Circular*, College of Agriculture, University of Wisconsin (November, 1932).

<sup>7</sup> B. H. Hibbard, et al., "Tax Delinquency in Northern Wisconsin," *Wisconsin Agricultural Experiment Station Bulletin*, No. 399, p. 27; B. H. Hibbard, W. A.

(Footnote 7 continued on page 274)

tion.<sup>7</sup> A recommendation made to the Legislature by the Interim Committee on Forestry and Public Lands is worthy of note.<sup>8</sup> Their recommendation was that counties be given the needed authority for zoning, based upon a county survey, and that the laws be amended to give county control over development by relocation of settlers and by direct expenditure for roads and schools. Subsequently, the Legislature of 1929 amended the county zoning law by adding a section which provides that:

"The county board of any county may by ordinance regulate, restrict and determine the areas within which agriculture, forestry and recreation may be conducted, the location of roads, schools . . ."

On May 16, 1933, the Oneida County Board of Supervisors, with the unanimous approval of all town boards in the territory affected, adopted a county zoning ordinance under authority of the amended law. Oneida County has, therefore, become the first county to regulate the use of land for agriculture, forestry, and recreation.

#### *Conditions in Oneida County*

The land and financial situation in Oneida County is similar to that of other Northern Wisconsin counties, albeit some differences in the development of agriculture, recreation, and forestry exist. In common with all but 16 counties, mostly in the southeastern part of the State, it receives more from the State in the form of aids than it contributes to the state treasury in the various taxes. In 1929 Oneida County paid to the State \$99,361.00 which represents 0.42%

of the total state taxes paid. In the same year Oneida County received from the State \$188,347.00, which represented 1.04% of the total state aid paid to counties. By far the largest part of such aid is for education and highways, but the County is also drawing a substantial sum under the forest crop law.

In regard to land uses, Oneida County is one of the most highly developed recreational counties of the State. There is almost as much land occupied by resorts, summer homes, clubs, and camps, or in unsold but highly assessed frontage, as there is in farms. Zoning is important in a region where this type of land represents  $\frac{1}{3}$  of the entire taxable real estate wealth of the county, including the city of Rhinelander. Property of this type is practically confined to the riparian land. A cross-section of the situation in this County as it existed in 1931 showed that 9.7% of the total land area of the County was used for farming, 9.2% for recreational purposes, and 62.4% was classed as cut-over waste and swamp land. The balance (18.7%) was in timber, forest crop lands, or in public ownership, either federal, state or county.<sup>9</sup>

Map I showing the location of the farms indicates certain concentrations—around the city of Rhinelander, in the town of Stella, which is an important potato area, and several other centers near villages or along important state or county highways. In addition to these compact communities are many scattered farms among which abandoned farms are the most numerous.

Marinette County Land," *Special Circular*, Extension Service, Wisconsin College of Agriculture, May, 1929.

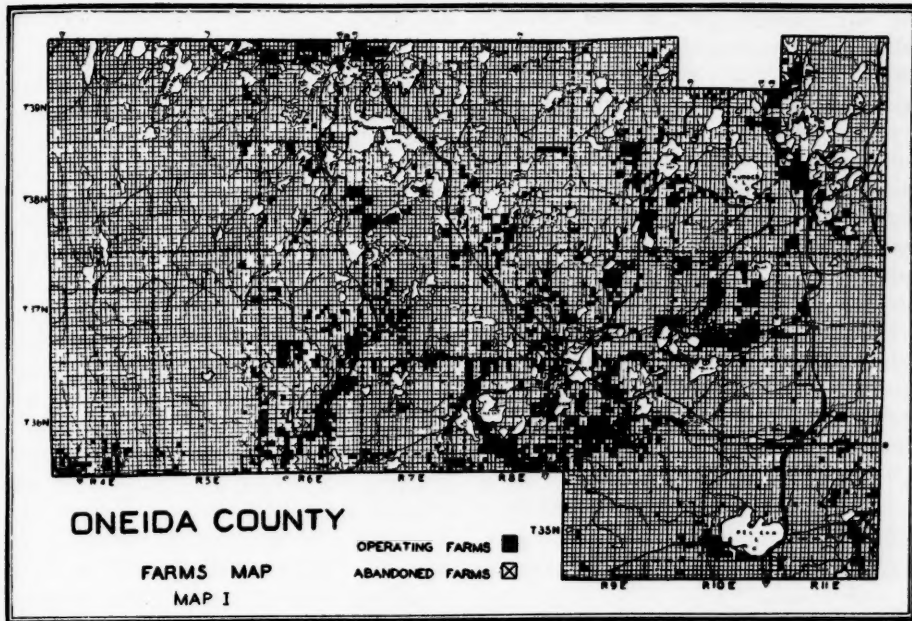
<sup>8</sup> Report of the Interim Committee on Forestry & Public Lands, Wisconsin Legislature, Madison, March, 1929, p. 40.

<sup>9</sup> "Making the Most of Oneida County Land," *Special Circular*, University of Wisconsin, College of Agriculture, April, 1931.

(Footnote 7 continued from page 273)

Hartman, and W. N. Sparhawk, "Use and Taxation of Land in Lincoln Co., Wis.", *Wisconsin Agricultural Experiment Station Bulletin*, No. 406, p. 35; W. A. Hartman, "State Land-Settlement Problems and Policies in the U.S.", United States Department of Agriculture, *Technical Bulletin*, No. 357, p. 74; "Making the Most of





The relation between successful agriculture and transportation, good markets, and good soils is very close in this County.

Tax delinquency has become an increasingly important fiscal problem. The tax delinquency map (Map II) shows that the areas around the lakes occupied by resorts and summer homes and the farming sections were paying their taxes, whereas the tax delinquent lands were concentrated on the land not in productive use. The town of Stella with  $\frac{1}{3}$  of its land in farms, recreation, timber, and forest crop land had only 2% of its area delinquent, whereas the town with the smallest area in productive use (13%) had about 50% of its area on the tax rolls as delinquent land. Out of a total of 728,000 acres almost 36%, or 261,000 acres, was delinquent in 1930, and 164,920 acres were delinquent three years or more and were therefore subject to tax deed by the county at that time.

While Oneida County was no different than other northern Wisconsin counties in the nature and extent of its problem, it perhaps was a little more advanced than most of these counties in the creation of public sentiment for conservation. It was one of the first counties to create school forests which helped to educate the children in conservation and reforestation. There are 12 school forests in the County now. In 1930 the County Board of Supervisors asked for a study of the resources, tax delinquency, and finances of the County. The recommendations made in this report furnished the basis for subsequent county action later culminating in the zoning ordinance.<sup>10</sup> The American Legion State Forest established in 1928 has acted as an example of conservation. This forest occupies 17,776 acres and gives public access to several beautiful lakes. The Argonne unit of the Nicollet National Forest in

<sup>10</sup> *Ibid.*

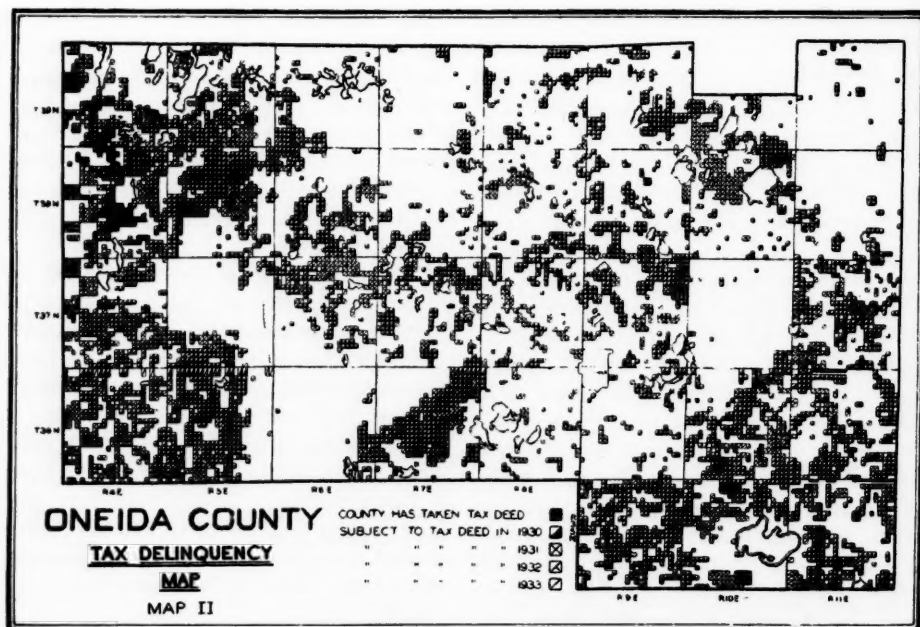
the northeastern part of the County takes in approximately 15,000 acres, of which about 5,000 acres have already been purchased. The County has followed a policy of taking tax deeds to delinquent land when deedable. Out of this it has established four county forest units with a total gross area of 82,780 acres, of which 40,154 acres have been entered under the forest crop law by the County.

Private interests have entered 35,530 acres under the same law, making a total of almost 100,000 acres of land in public and private forests. The significance of this will become apparent if it is recalled that in 1931, 172,000 acres under forest management were estimated as sufficient to maintain the present primary wood-working industries in the County forever.<sup>11</sup>

<sup>11</sup> *Ibid.*, p. 5

### *Zoning, a Method of Controlling Private Land Uses*

The problem of restricting settlement and land use is solved so far as public lands, the county forests, or even the private land under the forest crop law are concerned. Such land is not open to settlement, and all other uses are within the control of the owners—the county, state, and Federal governments. Recreation may be controlled by leasing or refusing to lease public lands and by imposing such reasonable restrictions as the state or county wishes to impose. Even if the county sells land obtained through tax deed, it has the privilege of refusing to sell submarginal land to prospective farmers or to sell any land which is not in an established community. Many northern counties have exercised great care in this respect. Some have refused to sell land to outside settlers who lacked sufficient funds to



"grub stake" themselves, thereby preventing an inflow of families who would gain a legal residence in a year and then demand relief. Land not suitable for agriculture or with some timber on it was sold to farmers with land adjoining to be used for a woodlot or pasture. Sales were not approved where the purchaser was likely to cut the remaining timber and again let the land revert to the county after he had stripped it of its only valuable resource. In one case, the county retained possession of several tracts because the land had gravel on it suitable for road making purposes; also, all frontage on rivers and lakes was retained to give the public access to the waters of the County. Oneida County has had a special committee of the county board, called the Colonization Committee, which supervised sales of county owned land and attempted to encourage the development of the good farming areas rather than to establish new areas.

Unfortunately, the word "zoning" has been applied to the advisory and directional efforts of county officials, to the classification of land by soil and land cover surveys, and to the control which counties and other public bodies have over the land in public ownership. "Zoning" should only be applied to the control of *private* land. This was brought home to the people of Oneida County when a settler moved into the wild lands of the western part of the County and made a request for a school and a road. Many of the towns also realized that unwise unemployment relief in the form of a "back to the land" movement might load them with poor relief in addition to road and school costs. These incidents dramatized the situation for the county officials and steps were taken immediately to enact a county ordinance to control the situation thus developed.

#### *The Enactment of the Oneida County Ordinance*

In November, 1932, the Colonization Committee, through the county agricultural agent, made a request that the College of Agriculture, in cooperation with other state departments (such as Conservation and the Attorney General), prepare an ordinance suitable to Oneida County. A committee was formed at the College, which took up two separate phases of the work: (1) the drawing up of an ordinance which would stand the test of reasonableness and constitutionality, (2) the delineation of the zones, based upon the physical and economic conditions of the County, incorporated in the "official map."

Although found to be constitutional as far as urban zoning and zoning for urban uses is concerned, this new type of control is breaking virgin soil. Can counties use the zoning power "to regulate, restrict and determine the areas within which agriculture, forestry and recreation may be conducted"? This question had been raised some time before by the legislative Interim Committee on Forest Fires and Delinquent Taxes and at their request the Attorney General's Department through F. M. Wylie gave the following opinion:

"The county zoning statute is undoubtedly in the public welfare. The cut-over areas of northern Wisconsin speak as eloquently against haphazard development as any city condition. The spotting of these lands with remote or abandoned farms, resulting in sparsely settled districts with insufficient population or value to support roads and schools or to afford the comforts of living that this day should give to all, the misdirected efforts to farm lands, not well-suited to agriculture, with resulting personal grief and social loss; the far-reaching economic ill-effects of stripping the state of timber, the fire hazard of the cut-over lands, and the fire hazard of human habitation in their midst, all cry out for planning, for social direction of individual effort.

"How far a county zoning ordinance may go, however, in restricting the use of private property in these areas, depends to a large extent upon facts that must be carefully investigated and shown. The Wisconsin court in the city zoning cases placed emphasis upon the compensating features of a police regulation restricting the use of property. These features are not so marked in a prohibition of agriculture for forestry, the direct returns from which are remote. I am inclined to the view, upon my limited information, that the necessity is so great, in the interests of future, perhaps more than the present welfare, that the court should find the absolute prohibition of agriculture in certain areas reasonable, and not a taking of property without compensation, while in other areas such a prohibition might be unreasonable. Care must be exercised, however, not to unreasonably discriminate between areas, but to base differences in regulation upon differences in conditions.

"The concrete application of constitutional limitations to county zoning ordinances in general can safely be stated only after careful investigation and study of conditions. I think it wiser to recommend the obtaining of further legal advice upon a full record of all the circumstances, and I think it may then have to be given with reservations or specifications as to varying conditions; that is, each county ordinance will have to be tested, to some extent, by the particular conditions it deals with.

"May I say, however, that I believe the judicial tendency is going to be to recognize more and more the great social evil of uncorrelated and unrestrained individual and selfish enterprise and hence to broaden its view of the power of government to plan the social and economic conditions of the present and the future."<sup>12</sup>

Since the drawing of the ordinance is so largely a legal matter, the Attorney General's office cooperated with the Committee from the very beginning.

Two fundamental points of view were kept in mind: (1) make the ordinance as easy to understand and with as little legal language as was consistent with

completeness and accuracy; (2) create as few use districts as possible in order to avoid complications with the ordinance itself.

Further, the College advisory committee on zoning felt that since this was pioneer work, it would be much better to present an ordinance which might later need to be changed and amended by the people because of a definite requirement, as a result of growth, rather than to present a comprehensive ordinance which might be rejected by the people because of its technical nature. The Committee kept in mind the fact that provisions which the people would deem unreasonable might jeopardize the entire program. The statement of the court in the case of *Miller v. Board of Public Works* (195 Cal. 477 (1925)) was good advice:

"It cannot be gainsaid, however, that many municipalities, evidently upon the theory that zoning is a panacea for civic ills, have, under the guise of zoning, sought to enact and enforce unreasonable and discriminating ordinances. Some of these attempted regulations have been palpably for the exclusive and preferential benefit of particular localities."

"The tests which would be applied to determine the validity of a county ordinance are clearly indicated in two questions which the court introduced shortly after the above quotation:

"(1) Is the scheme of zoning as a whole sound, that is to say, is the method of classification and districting reasonably necessary to the public health, safety, morals or general welfare?

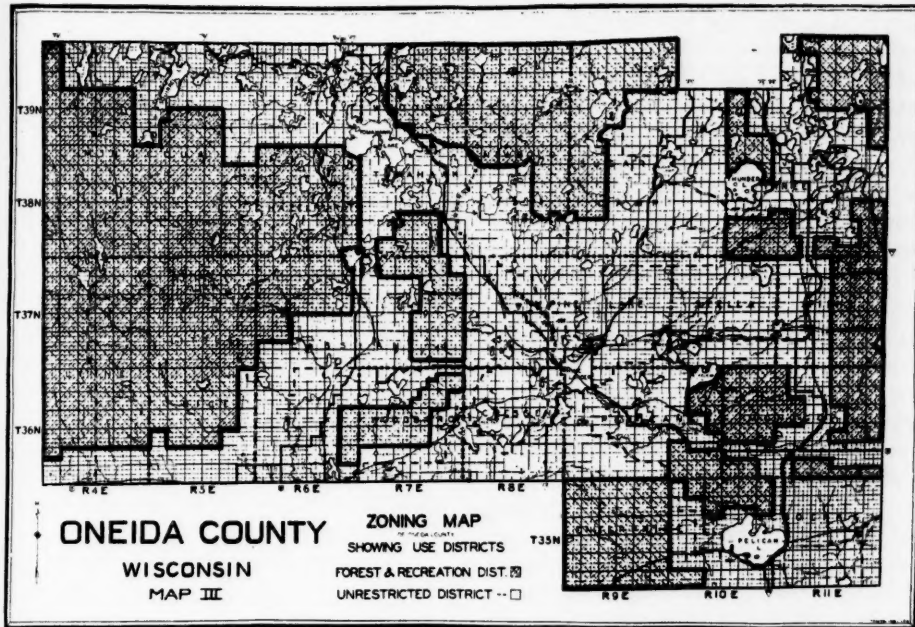
"(2) Has the scheme of classification and districting been applied fairly and impartially in each instance?

"If such questions as the above with respect to districting in counties can be answered affirmatively by reasonable men, it cannot be doubted that the principle will be upheld by the courts."<sup>13</sup>

Two use districts were created in

<sup>12</sup> F. M. Wylie, Vol. 20, Attorney General's Opinion, Wis. 751.





Oneida County: (1) a forestry and recreation district consisting of several separate blocks of land totaling more than 300,000 acres, and (2) an unrestricted district containing the balance of the land in the County—some 420,000 acres (Map III).

As the name indicates, in the unrestricted district no restrictions were set up in the ordinance. In the forestry and recreation district, a number of permitted uses are specifically mentioned in the ordinance, other uses being prohibited. Since there is no conflict between forestry and recreation in Oneida County, one zone takes care of both uses. Saw mills, cutting and storing of lumber, making of maple sugar, and all the usual forest operations are allowed. Recreation is permitted in the form of (1) public and private play-

grounds, golf courses and camp grounds; (2) camps, resorts, and cottages designed for seasonal occupancy only; (3) hunting, fishing, or trappers' cabins occupied only at special seasons; (4) boat liveries; and such extractive industries as mines, quarries, gravel pits, hydroelectric plants and their accessories are mentioned as permitted uses. Since family dwellings rather than businesses are likely to create school and road costs, these are mentioned definitely as a prohibited use and defined as follows:

"Family dwelling—any building designed for and occupied by any person or family establishing or tending to establish a legal residence or acquiring a legal settlement for any purpose upon the premise so occupied."

The important words in this definition are "legal residence" and "legal settlement" because it is the legal resident who has claims on schools and poor relief. Under an old law, settlers could demand that roads be built for their

<sup>13</sup> L. Deming Tilton, "Regulating Land Uses in the County," 155 *Annals of the American Academy of Social and Political Science* 130 (May, 1931).

benefit and the law was interpreted to mean that the town was compelled to build the road. This law has since been revoked. Nevertheless, it is difficult for neighbors to refuse such requests and leave a man and his family stranded. Zoning will correct this by preventing the settler from isolating himself in the first place.

However, there were some farms and other prohibited land uses in the restricted district, and they are permitted to continue under the "non-conforming use" clause of the ordinance. But if the use is discontinued for a reasonable length of time it cannot be restored.

The administration of the act rests with the county board of supervisors. In the absence of either a county park commission or a rural planning board, the actual administration will no doubt be delegated to a committee, and the colonization committee of Oneida County which sponsored the enactment of the ordinance seems to be the logical one to administer it. The zoning law provides that the ordinance may also be enforced by injunctive proceedings by any owner of real estate living in the restricted zone as well as by the county.

For the second task, that of delineating the zones and making the official map, the Committee made use of the data gathered in 1931, published in the circular, "Making the Most of Oneida County Land." All basic data available, such as the location and extent of soil types, farms, forests, tax delinquency, recreation, as well as maps showing the extent and location of roads, schools, markets and community centers, were used in delineating the boundaries of the two proposed use districts. In this work the Oneida County survey was most helpful. This experience shows the need of studying every county separately before drawing an ordinance or delineat-

ing the zones. Every ordinance should be "tailor made" and not a copy of some other.

### *Creating an Enlightened Public Opinion*

All contacts between members of the College advisory committee and the County Board of Supervisors were made through the office of the county agricultural agent. The county agent was also secretary of the county colonization committee which was the committee designated by the board of supervisors to sponsor the zoning procedure. Two conferences were held with the county colonization committee at which the ordinance and accompanying map were presented and explained, and finally approved by them.

Wishing to be sure that all interested citizens as well as the town boards had ample opportunity to understand fully the principles of zoning and the intent of the ordinance, the colonization committee instructed the county agent to hold a series of "educational meetings" with the town boards in the towns affected and further suggested that local residents be invited to attend one of these meetings.

A series of 16 such meetings was held by the county agent with the assistance of a specialist in land economics from the Wisconsin College of Agriculture. Records were kept of the meetings, and comments and criticisms were obtained. Emphasis was given to the fact that the administration of the zoning ordinance was in the hands of local people through their town boards and county board, and that the only place the State had in this entire matter was in providing a law permitting counties to zone their lands.

As a result of these educational meetings some 80,000 acres were added to the forest and recreation district as

originally set up, and in all but one case complete approval was given to the zoning ordinance at the first meeting. In this case, the town of Minocqua, the town chairman was unable to be present and the local residents suggested that another public meeting be held before the town board officially approve the ordinance and determine the boundaries of the forest and recreation district.

It has been pointed out that city planning cannot be successful unless the planner collaborates with the community at every step of the procedure. If this is true for an urban community where control over an individual's life is an every day affair, it is a hundred times more important in a rural community on the "pioneer fringe" where "rugged individualism" exists in its purest form. "Do you mean to tell me that you are going to tell a free-born American citizen that he can't do with his land as he pleases?" was a direct question at one of the meetings. Yet, after this man was shown that, when a "free-born American citizen" in doing what he pleases burdens the taxpayers with an unnecessary school, a road which the settler might use merely to move out again, to say nothing of the fact that the town might have to feed him, he was convinced of the soundness of zoning principles.

#### *Zoning and Land Utilization*

Although the immediate reason for zoning is the control over public expenditures through restriction of land utilization, there are by-products which may in time become the main products. Zoning seems to be all negative, prohibitive, and restrictive. Yet, in contrast to the 300,000 acres in the restricted zone, there are some 420,000 acres where the settler will find the best soils of the County with access to roads

and markets. An examination of the zoning map will show only two large blocks of restricted land. All the rest are smaller areas separated by strips of the unrestricted district along the important highways. Highways attract settlers and industries which would immediately call for a change of boundaries of the zones if such areas were placed in the restricted district. As other roads are built and good land becomes accessible, more land can be released for agriculture if there is demand for it. The point is that the committee can exercise its power to guide settlement in this way in the direction of the good soils and with the smallest possible demand for public services. Farming settlements will tend to be compact and therefore can easily support complete systems of secondary roads, modern schools, and successful community activities.

The areas dedicated to forest uses will help in regulating the stream flow, in growing a cover for wild life, and in promoting recreation. The industries maintained or created by the forest products will keep up the payrolls in the cities and villages and provide part-time work for farmers.

The governmental costs can be reduced to a minimum. The only roads will be through roads and those needed to service the summer resorts during the tourist season. All others can be reduced to fire lanes and logging roads. Since no dwellings are permitted, schools are not necessary. Forest protection and game law enforcement will be the work of the state or county. In fact, changes in the functions of towns and enlargement of the area of government will come rather naturally as the result of zoning land uses.

The utilization of land can be made more effective after being blocked into

natural areas than when all uses are intermingled. There is less danger from fire when settlers are not clearing in the midst of a forest, and there is less game damage and trespassing by hunters if the farmer lives in a closely built up rural community. People who are looking for quiet, beautiful places to build a summer home will appreciate a zoned area dedicated by legal enactment to recreation. All this will help to stabilize and enhance land values within each zone or district and promote the orderly utilization of the land.



# Service Contracts in the Electric Bond and Share Company

By N. S. BUCHANAN

AS the electric power and light industry has grown ever larger in the United States, its control and management have become increasingly centralized through the device of the holding company. Some holding companies confine themselves largely to redistributing the income received on securities owned and give only slight attention to the management of operating properties; others, however, are actively engaged in the management or servicing of their subsidiary or affiliated companies; again many holding companies also operate properties which they directly own. As a consequence, in addition to the interest and dividends received on securities owned, companies of the second and third type have a source of income in the charges they make for management services rendered to their subsidiaries or clients. Despite its importance, the nature and conse-

quences of this management service of holding companies have received only general treatment. The purpose here, therefore, is to attempt a description of the manner in which the Electric Bond and Share Company, one of the largest and most important of these service companies with a holding company set-up, performs certain supervisory services for its affiliated companies.

Before doing so, however, it is necessary to digress briefly in order to show the nature of the Electric Bond and Share Company. As now organized, Bond and Share is a holding company of holding companies, using the term "holding company" in its broader sense.<sup>1</sup> By means of interlocking directorates, ownership of voting stock,<sup>2</sup> and officers and employees in common, the Electric Bond and Share Company has control of four major holding companies in the United States and a fifth whose sub-

<sup>1</sup>As now used, the term "holding company" has both a narrow and a broad meaning. In the narrow sense it means any company which owns at least a majority of the voting stock of one or more other companies and is thus able to elect their directors. Broadly, it is used to designate those companies whose stock holdings in other companies, although perhaps less than a majority, are yet sufficient to exercise a very real control over them. The latter use of the term has become increasingly current as it has been recognized that majority stock ownership is frequently unnecessary in order to control a company.

The Electric Bond and Share Company prefers not to consider itself a holding company, probably for two reasons: (1) it does not own securities in operating power and light companies but only in the holding companies which control them; (2) its stock ownership in its affiliated holding companies has been commonly less than a majority and hence, according to the earlier and stricter use of the term, it is not a holding company but perhaps an investment-service company. Nevertheless, the Company is regularly referred to as a

holding company and this usage has been adopted here.

In this connection one of the most recent definitions of the term "holding company" is worth noting: "Any company, incorporated or unincorporated, which is in a position to control, or materially to influence, the management of one or more other companies by virtue, in part at least, of its ownership of securities in the other company or companies." (Bonbright, J. C. and Means, G. C., *The Holding Company* (New York: McGraw-Hill, 1932), p. 10.)

<sup>2</sup>The holdings of Bond and Share in the common stocks of its affiliated companies at December 31, 1932 were as follows:

|                                     |        |
|-------------------------------------|--------|
| American & Foreign Power Co. (Inc.) | 47.90% |
| American Gas and Electric Co.       | 18.87% |
| American Power & Light Co.          | 31.10% |
| Electric Power & Light Corp.        | 59.34% |
| National Power & Light Co.          | 46.59% |

(*Annual Report, Electric Bond and Share Co., 1932*).

In addition, however, Bond and Share in two cases owns a majority of the perpetual warrants to purchase common stock.

subsidiaries are entirely without the United States. The four companies with subsidiaries entirely within this country are: the American Gas and Electric Company<sup>3</sup> (originally organized in 1906), American Power & Light Company (organized in 1909), National Power & Light Company (organized in 1921), and Electric Power & Light Corporation (organized in 1925). American & Foreign Power Company (Inc.), which controls all Bond and Share's interests abroad, was organized in 1923. Each of these five holding companies, either directly, or indirectly through other holding companies, is in control of a number of operating companies spread over a wide geographical area. In 1929 the gross earnings of the subsidiaries of the four companies with interests entirely within the United States were in excess of \$300,000,000, while the subsidiaries of American & Foreign Power earned gross in the same year approximately \$63,000,000.<sup>4</sup>

As organized at present, the income of the Electric Bond and Share is chiefly derived from two principal sources: (1) the holding of securities, and (2) the supervision and servicing of the above mentioned holding companies and their operating subsidiaries. In recent years each of these two activities has contributed almost equally to the gross income of Electric Bond and Share. The supervision service rendered by the Electric Bond and Share Company will constitute our chief concern here.

<sup>3</sup> The relation of Electric Bond and Share to American Gas and Electric is different in several respects from its relationship to any of the other four companies. In the first place, American Gas and Electric exists more than merely on paper. It has an office and personnel of its own and a physical reality not possessed by the other companies. Secondly, Bond and Share influence in the management of American Gas and Electric is considerably less than in the other four. Finally, for all servicing of subsidiaries, except certain financial matters, American Gas and Electric has its own staff.

The need for expert supervision of operating power and light companies is somewhat greater than would appear to the casual observer. At first glance, perhaps, operation appears quite a routine matter and, of course, to some extent this is true. But under private ownership the profit motive is strongly operative and the management has other problems than the generation and distribution of electrical energy. To increase earnings through larger sales is frequently no small task, but rather one requiring a competitive technique of a high order. For example, for lighting purposes electricity probably has no real competitor in many parts of the country at the present time. But the same cannot be said of appliances (heaters, vacuum cleaners, cooking devices, fans, furnaces, radios, clocks, etc.). To considerable degree many of these are luxuries and the power company has to compete with other interests in the scramble for the consumer's dollar. In the matter of industrial uses, electricity meets formidable competition in steam power and, to a lesser degree, in oil and water power. Furthermore, it must be remembered that many industrial concerns are sufficiently large to produce their own electricity on an economical basis, and the private power company must meet this actual or potential competition.<sup>5</sup> The consequence is that the power companies have found it necessary to develop a competitive sales technique of a high order.

While recognizing these differences, it seems reasonable to include American Gas and Electric along with the other four companies in the present treatment. Certainly Bond and Share considers American Gas one of its affiliates. Wherever American Gas is unique in its relationship with Bond and Share, this will be noted.

<sup>4</sup> These figures have, of course, been reduced by the depression.

<sup>5</sup> For example, the International Power & Paper Co. got into the electric power industry as a result of its large power needs as a manufacturer of paper.

But probably the greatest need for expert and skillful management arises in connection with the expansion of generating facilities, the construction of power plants, transmission lines, distribution lines, etc. Here the most expert technical skill is required in a field where improvements in efficiency and cost are proceeding apace. Generating plants must be constructed in accordance with the latest scientific knowledge; the extension of power lines involves the purchase of rights of way, with all the attendant negotiations and legal complications; projected distribution lines demand expensive and careful cost studies before they can be safely undertaken. In all these matters and many more besides the operating companies must have special and expert advice. But the demands of individual operating companies for such service are so decidedly sporadic that it would be extremely uneconomical, if not impossible, for them to maintain a permanent organization to render these services.<sup>6</sup> Yet for profitable operation and effective expansion these services must be furnished.<sup>7</sup>

The provision of these services is precisely the role filled by the Electric Bond and Share Company. In its own words, "The entire organization of the Electric Bond and Share Company, embracing the following departments and divisions: auditing, commercial and merchandising, comptroller, construction, corporation and law, efficiency and betterments, engineering and executive, financial, foreign inspection, insurance, investigations, operating, public rela-

tions, purchasing, rate, secretarial, securities, statistical, traffic, treasury, valuation, becomes in effect a part of the organization for which it acts." Thus, Bond and Share maintains a staff capable of furnishing the latest technical, legal, and financial advice to its supervised companies.

The Electric Bond and Share services the companies associated with it under the terms of a document called the Service Contract. This contract, a formal agreement, specifies certain services in return for certain payments. The companies so supervised are called "client" companies and include the five holding companies named above and their subsidiaries; no companies other than those associated with it through ownership of securities, interlocking directorates, etc., receive Electric Bond and Share supervisory service.

The direct supervision of its subsidiary or associated companies by Bond and Share does not date back as far as 1905 when the Company was organized. In that year the Electric Bond and Share Company was of very modest proportions. The first holding company which it organized (American Gas and Electric, 1906) developed for itself the personnel and facilities for supervising its subsidiaries.<sup>8</sup> With the organization of the American Power & Light Co. in 1909, however, Bond and Share commenced to supervise and advise concerning the management of the operating companies by a staff under its own control. But in these early days the meaning of supervision was a great deal less precise than at the present time. As a consequence, the supervision charge to the

<sup>6</sup> This is particularly true in the case of Bond and Share where most of the properties are in rural or semi-rural areas. Large, compact operating units can often provide their own technical staffs on an economical basis, e. g., subsidiaries of the North American Co.

<sup>7</sup> Construction budgets have been heavily cut by the

depression, of course. For the industry as a whole, the 1930 budget was \$960,889,000, whereas in 1932 it was only \$260,000,000. (*Electrical World*, January 7, 1933, p. 43.)

<sup>8</sup> See note 3 above.

supervised companies was based on the cost to Electric Bond and Share of maintaining the various departments and personnel requisite to the service. However, as time passed and the companies involved increased in number and size, it became necessary to define supervision more precisely. While some formal supervision contracts were drawn as early as 1912, in the year 1917 we find Bond and Share introducing formal supervision contracts and from that time forward all services have been rendered under such contracts. Since some of the companies which at present make up the Electric Bond and Share group, however, were either not in existence in 1917 or were not affiliated with the Electric Bond and Share Company, the contracts with the different companies prior to 1929 were not precisely uniform. In some instances, for example, the contracts were drawn between the operating companies and Bond and Share. In others, the contract was drawn between the holding company and Bond and Share, but provided by its terms for the supervision of any subsidiaries of the holding company which did not have supervision contracts directly with Electric Bond and Share. There were also certain differences in charges.

In March, 1929, Bond and Share undertook a general revision of all contracts then in force. The revision was confined primarily to charges. Before considering the revised contracts, however, we shall first examine the earlier contracts in force between 1917 and 1929.

#### *Services Rendered by Contract*

Both the earlier and the revised contracts classify services and charges under three main headings:

1. General Supervision and Service
2. Special Engineering Services
3. Fiscal Services

Each of these three main divisions is, in turn, subdivided into several sections which specify rather carefully the various kinds of service to be rendered.

1. "General Supervision and Service" includes many quasi-managerial services to the supervised company by persons in the employ of the Electric Bond and Share Company. This does not mean that the local managers are wholly stripped of executive power and discretion, but that many important matters are acted upon in consultation with employees and officers of Bond and Share who are frequently at the same time officers of the supervised holding and/or operating company. From a mechanical standpoint usually two vice-presidents of Bond and Share are appointed officials of the supervised holding company (say, American Power & Light Co.), while two accountants similarly appointed become secretary and treasurer and assistant-treasurer and assistant-secretary, respectively. In order to supervise the operations of the subsidiary operating companies of the particular holding company, the properties are divided, usually geographically, into "operating groups" and for each operating group the operating vice-presidents appoint a so-called sponsor. These sponsors together with the operating vice-presidents constitute the operating advisory committee of the supervised holding company. The function of this committee is to watch operations and to recommend extensions, improvements, and matters of general policy to the board of directors of the main holding company (e. g., American Power & Light). Apart from work of this kind Bond and Share handles many matters for the supervised companies through different departments of its organization, such as purchases, insurance, rates, publicity, accounting. The work handled through such de-



partments is very considerable indeed.<sup>9</sup> Taken as a whole, General Supervision and Service and the manner in which it is supplied provide for an effective management of the supervised company.

2. Apart from engineering matters arising in the ordinary course of operations and covered by the General Supervision and Service portions of the contract, the operating companies frequently require special studies or investigations of an engineering nature and these are covered in the contract under "Special Engineering Services." Since their time is largely taken up with more routine matters of operation, the regular engineering staffs of the operating companies cannot well handle these special problems. Furthermore, the handling of many such problems requires a very specialized training which the staff engineers do not possess. Consequently, under Special Engineering Bond and Share agrees to furnish personnel for such engineering service and for such studies as the board of directors of the supervised company may authorize to be made.<sup>10</sup>

Also included under Special Engineer-

<sup>9</sup> It is interesting to note in this connection the distribution of employees among different departments of the Electric Bond and Share Company. The following figures as of September 30, 1929 have, of course, been considerably reduced by the depression but are offered for what they are worth.

|                    |       |
|--------------------|-------|
| Executive and      |       |
| Operating.....     | 176   |
| Securities.....    | 51    |
| Corporation.....   | 45    |
| Engineering.....   | 583   |
| Comptroller.....   | 240   |
| Treasury.....      | 105   |
| Office Service ..  | 237   |
| Miscellaneous..... | 7     |
| TOTAL.....         | 1,444 |

(Taken from Senate Doc. 92, Parts 23 and 24, 70th Congress, 1st Session, p. 411. See also *Ibid.*, for a detailed description of the work of the various departments of the Electric Bond and Share.)

<sup>10</sup> Such matters as designs, specifications, estimates, and the various technical problems of operation are included here.

<sup>11</sup> An excellent example of such work is the mammoth hydro development at Wallenpaupack Creek, near Hawley, Pa., by the Pennsylvania Power & Light Company, an operating subsidiary of the Lehigh Power

ing Service is the engineering work on construction jobs. From time to time the operating companies find it necessary to construct dams, build power houses, replace antiquated equipment, extend transmission lines, install switching stations, in order to decrease costs or to increase generating capacity.<sup>11</sup> For projects such as these it is obvious that the operating companies have no adequate staff. The supervision contract, therefore, provides that Electric Bond and Share will carry out such work for its client companies.<sup>12</sup>

3. Under "Fiscal Services" Bond and Share provides the supervised companies with certain financial services which may be briefly described.

Rapidly expanding holding and operating companies are frequently in the market for funds and short-term loans are often necessary to finance the acquisition of additional properties or companies. These short-term loans are subsequently funded by the sale of securities to the public. Likewise, consolidations, property additions and betterments, expansion, and reorganizations give rise to security sales.<sup>13</sup> Obviously, the mar-

Securities Corporation (National Power & Light group). This development, begun in 1924 but not completed for several years, entailed an expenditure of some \$9,000,000 and the services of a large number of specialized engineers to solve the difficult problems involved.

<sup>12</sup> For construction projects in the past Bond and Share has used two construction companies, Phoenix Utility Co. and Texas Construction Co. Completely owned and controlled by Bond and Share, these companies have been no more than the construction department of Electric Bond and Share in corporate form. Recently, however, (in the summer of 1932) Texas Construction Co. has been rendered inactive.

<sup>13</sup> The development of each of the four main holding companies and of their subsidiaries is replete with instances of expansion through acquisition and consolidation. Such acquisitions have frequently been for a cash consideration running into large figures. Often the speed with which the funds can be obtained is of primary importance. As a rule, however, the buying company is either not in direct touch with the loan market or is not in a position to borrow on as favorable

(Footnote 13 continued on page 288)

keting of such securities, frequently running into large figures, is no small task and one which the issuing companies are ill-equipped to undertake on their own account.<sup>14</sup> While Electric Bond and Share has no organization for retailing securities except in customer-ownership campaigns, it can and does assist the selling company by negotiating favorable terms with investment bankers. Furthermore, it prepares all financial statements and publicity material for the selling company at direct cost. In its own words, it agrees to "issue reports, statements, circulars, and general data in regard to the business and properties of your company for the information of investment bankers, the press, the general public, commissions and other public authorities." Once the securities have been disposed of, the Electric Bond and Share Company declares itself willing to aid the selling company further by endeavoring to maintain a favorable market for the securities sold.

Although under General Supervision and Service the Electric Bond and Share keeps many of the accounting records of its supervised companies, it is obvious that certain accounting records must be kept by the field staffs. Since these records must be audited, Bond and Share does this work under the classification of Fiscal Services.

The foregoing description of the services supplied under contract by the Electric Bond and Share Company to its affiliated or client companies has been necessarily brief but it is hoped that

enough has been said to provide a reasonable understanding of the nature of the services provided.

### *Service Charges*

In discussing charges it must be borne in mind that in 1929 Bond and Share undertook a general revision of all service contracts then in force and that the main feature of this revision concerned charges. These revisions will be subsequently considered but what immediately follows refers to the service charges in force prior to 1929.

For the services described under General Supervision and Service, Bond and Share's fee was calculated as a percentage of the gross earnings of the supervised company plus, in some instances, a flat fee for supervising the holding company. The following schedules were operative prior to March, 1929:

*Electric Power & Light Corporation* and subsidiaries and in the cases of operating companies having direct contracts with the Electric Bond and Share Company as follows:

|     |   |
|-----|---|
| 1½% | on first \$4,000,000 annual gross earn. |
| 1⅜% | on next 3,000,000 annual gross earn.    |
| 1¼% | on next 2,000,000 annual gross earn.    |
| 1⅛% | on next 1,000,000 annual gross earn.    |

*American Power & Light Co.* and subsidiaries<sup>15</sup>

|      |   |
|------|---|
| 2.0% | on first \$1,000,000 annual gross earn.       |
| 1.9% | on next 2,000,000 annual gross earn.          |
| 1.8% | on next 4,000,000 annual gross earn.          |
| 1.7% | on next 6,000,000 annual gross earn.          |
| 1.6% | on all over 13,000,000 annual gross earnings. |

*National Power & Light Co.* and subsidiaries a flat 2% of the gross earnings of the National Power & Light Co. and subsidiaries, plus a further fee equal to 3% of all expendi-

(See Senate Doc. 92, Parts 23 and 24, 70th Congress, 1st Session, pp. 682-683.)

<sup>15</sup> In addition to the application of the above percentage fees based on gross earnings, \$3,000 per annum was also charged for supervision of the American Power & Light Co. itself, plus \$2,500 per annum for supervision of one of its subsidiaries.

(Footnote 18 continued from page 287)

terms as Bond and Share. Thus Bond and Share has often arranged for its client companies the necessary loans through its numerous financial connections, or has advanced the money from its own treasury.

<sup>14</sup> In 1927 the total bond sales alone by supervised companies of Electric Bond and Share had a par value of \$76,238,515; in 1926 the figure was \$219,352,431.

tures for additions, extensions, and improvements to properties, exclusive of fees charged on construction work.<sup>16</sup>

*American & Foreign Power Co. (Inc.)*

Usually 3% of the annual gross earnings.<sup>17</sup>

The Electric Bond and Share Company's charges for Special Engineering Service of the type described above were calculated before 1929 as follows: For special studies and the like, pay-roll cost of such service to Bond and Share plus an amount to cover the overhead charges supposedly incurred. The overhead costs so added were substantial before 1929; for the calendar year 1927 in no supervised group was the overhead charge less than 92.16% of the pay-roll cost, while the highest was 98.35%.<sup>18</sup>

The charges by the Electric Bond and Share for construction work carried on for the account of supervised companies were not uniform for all companies prior to 1929. In the Electric Power & Light Corp. contract, the National Power & Light Co. contract, and contracts directly with the operating companies, the fees collected were calculated as follows:

5% of the first \$200,000 cost of the job  
4½% of the next 800,000 cost of the job  
4% of all cost above \$1,000,000

The fees for subsidiaries of American Power & Light Co., other than those having direct contracts with Bond and Share, were slightly lower, viz:

<sup>16</sup> That is, fees which were collected under the Engineering and Construction portion of the contracts to be discussed below.

<sup>17</sup> In the case of one subsidiary the percentage fee began at 2.5% and in another a fixed annual fee of \$5,000 was charged. American & Foreign Power Co. itself paid a fixed annual fee of \$12,000.

<sup>18</sup> Senate Doc. 92, Parts 23 and 24, 70th Congress, 1st Session, pp. 672-675.

<sup>19</sup> In connection with the fees for special engineering services given above, the following paragraph from the contract should be noted: "Where more than one such authorization for construction in the same group is made during any calendar year the foregoing percent-

4% of the first \$100,000 cost of the job  
3½% of the next 700,000 cost of the job  
3% on all cost above \$800,000

As in all phases of the contract, the construction fees for work done for subsidiaries of the American & Foreign Power Co. (all outside the United States) were higher than those for domestic companies, and ranged from 5 to 7% of the cost of the project.<sup>19</sup>

As already noted, Fiscal Services include a variety of items and Bond and Share's charges for these prior to 1929 were as follows: For negotiating with investment bankers for the sale of securities of supervised companies, compensation was regularly a percentage of the par or face value of the securities sold. The charges varied, however, depending upon the kind of security sold and upon whether the securities were a new issue or further sales of a previous issue.<sup>20</sup> Auditing services, like special engineering services, were handled on a pay-roll-cost plus overhead basis. Bond and Share officials claim that its auditing charges have been substantially below those of independent auditors for the same work.

*Earnings from Service Contracts*

The foregoing paragraphs have attempted to describe the Bond and Share supervision and service contracts and charges as they existed prior to 1929.

ages shall be computed on the aggregate cost of the work covered by all such authorizations." That is to say, the construction costs were cumulative for any year for the purpose of applying the percentages.

<sup>20</sup> In the case of bonds, debentures, notes, etc., the percentage was 1½% of the principal amount of original issues; in subsequent sales of the same issue but to different buyers, 1%; and in subsequent sales of the same issue and to the same buyer, ½ of 1%.

For par value stock the commission rate was left for determination at the time of sale, except in the case of American Power & Light Co. where preferred stock bore a commission of 3% on original issues and 1% on subsequent sales.

For no-par-value stock the commission rate was usually \$2 per share.

The earnings derived by the Electric Bond and Share Company from General Supervision, Special Engineering, and Fiscal Services rendered its associated companies have together been responsible for almost half of the total earnings

TABLE I. GROSS INCOME OF THE ELECTRIC BOND AND SHARE COMPANY, MARCH 15, 1905-MARCH 13, 1929\*

| Gross Income from                      | Amount        | Percentage of Total Gross Income |
|--|---------------|----------------------------------|
| Supervision and Service Contracts      |               |                                  |
| General Supervision.....               | \$25,153,674  | .....                            |
| Engineering and Construction.....      | 22,677,215    | .....                            |
| Fiscal Services                        |               |                                  |
| Auditing, Investigations, etc.....     | 3,265,878     | .....                            |
| Commissions on Securities.....         | 13,555,619    | .....                            |
| Total Supervision and Service Income   | 64,652,386    | 46.7%                            |
| Dividends Received.....                | 32,507,474    | 23.5                             |
| Interest Earned.....                   | 22,462,917    | 16.1                             |
| Profit and Loss, Stocks and Bonds..... | 16,401,773    | 11.8                             |
| Miscellaneous Other Income.....        | 2,655,775     | 1.9                              |
| TOTAL INCOME, ALL SOURCES.....         | \$138,680,325 | 100.0%                           |

\*Compiled from data collected by the Federal Trade Commission. See Senate Doc. 92, 70th Congress, 1st Session, Parts 23 and 24, pp. 663-665.

of the Company and together were larger than those from any other single source. This is clearly revealed by Table I which shows the total gross income of Electric Bond and Share by sources for the period March 15, 1905 (date of organization) to March 13, 1929 (the date of the formation of the new Electric Bond and Share Company).

That this average ratio is approximately typical for recent years is revealed by Table II, showing the percentage of supervision and service earnings to total earnings in the last five years under the old contracts.

<sup>21</sup> Senate Resolution 83, 70th Congress, 1st Session, ordered the Federal Trade Commission, among other things, to inquire into the earnings and expenses of "holding companies and their associated and/or subsidiary companies." As a consequence, in 1928 the Commission asked Bond and Share for such income and expense ledgers as would reveal its costs and profits in detail. This Bond and Share refused on constitutional grounds and on the irrelevancy to the inquiry of the information demanded. A long legal battle ensued which only ended recently when Federal Judge John C. Knox of the United States District Court of the Southern District of New York, on August 19, 1932,

TABLE II. PERCENTAGE OF EARNINGS FROM SERVICE CONTRACTS TO TOTAL GROSS EARNINGS, 1924-1928\*

| Year    | Total Gross Earnings Electric B. & S. Co. | Total Earnings from Supervision and Services | Percentage of Total |
|---------|---|--|---------------------|
| 1924... | \$12,552,881                              | \$ 6,558,575                                 | 50.2%               |
| 1925... | 17,620,498                                | 7,883,661                                    | 40.1                |
| 1926... | 20,056,694                                | 10,927,486                                   | 54.4                |
| 1927... | 18,513,300                                | 9,373,172                                    | 50.6                |
| 1928... | 18,130,449                                | 8,916,527                                    | 49.2                |

\*See Senate Doc. 92, 70th Congress, 1st Session, Parts 23 and 24, p. 665.

The relative importance of the different classes of service is indicated by Table III which breaks down the figures of Table II into the different subdivisions followed in the contracts.

TABLE III. DISTRIBUTION OF EARNINGS BY CLASSES OF SERVICE, 1924-1928\*

| Year | General Supervision | Special Engineering     |              | Fiscal Services           |                        |
|------|---------------------|-------------------------|--------------|---------------------------|------------------------|
|      |                     | Estimates, Design, etc. | Construction | Commissions on Securities | Special Auditing, etc. |
| 1924 | \$2,049,113         | \$1,836,801             | \$1,223,017  | \$1,262,586               | \$187,057              |
| 1925 | 2,694,215           | 1,862,630               | 1,180,693    | 1,178,548                 | 167,573                |
| 1926 | 3,796,883           | 2,062,738               | 1,655,455    | 3,135,550                 | 276,861                |
| 1927 | 4,166,939           | 1,646,276               | 1,364,455    | 1,288,216                 | 707,285                |
| 1928 | 4,325,828           | \$2,578,743             | (combined)   | 1,025,496                 | 986,469                |

\*See Senate Doc. 92, 70th Congress, 1st Session, Parts 23 and 24, p. 665.

### Profits Derived from Service Contracts

Any estimates of profits on supervision are somewhat crude because of the ability of the Electric Bond and Share Company, until very recently, to sustain its refusal to submit any detailed statement of its expenses for examination by the Federal Trade Commission.<sup>21</sup>

ordered Electric Bond and Share to show costs of rendering services, purchase of materials which result in interstate movement of materials, apparatus and supplies, and others involving engagement in interstate commerce. (*New York Times*, August 20, 1932, p. 17.)

The Electric Bond and Share has since declared its intention of allowing the Federal Trade Commission to inquire into fees paid by its affiliated companies. (*New York Times*, November 17, 1932, p. 31.) This information has not yet been reported on by the Federal Trade Commission and consequently is not now available.



Possibly the simplest method of showing at what profit the supervision, engineering, and fiscal services were rendered by Bond and Share is to compare the total income from services and security sales with the total expenses. Between March 15, 1905 and March 13, 1929 the gross earnings of the Electric Bond and Share Company were \$138,680,325. Of this total, \$64,652,386 (46.7%) was income from general supervision, engineering services, auditing, and commissions on the sale of securities, as already shown.<sup>22</sup> Total expenses for the same period were \$45,418,587, or \$19,233,799 less than the total gross income from services and commissions (\$64,652,386). In other words, if *all* the Company's expenses were charged to service and commission income, the Electric Bond and Share Company would show a margin above cost of 42.3%.<sup>23</sup> But, of course, this crude method of estimating profits on supervision is open to serious criticism. Clearly it is not proper to charge all costs of whatever kind to service and commission income; certain expenses must have been incurred in acquiring the income from other sources. But even assuming that all expenses are charge-

able to supervision and commission income, the 42.3% profit above the greatest possible cost is a substantial figure.

The Federal Trade Commission, in an attempt to secure an estimate of the costs and profits of supervision, adopted two methods different from the one just offered. Taking the year 1927 for examination, the Commission noted that total income from services and commissions was \$9,373,170; total expenses of all kinds for 1927 were \$6,613,973. But of this total, expenses to the amount of \$2,058,853 were in no wise attributable to the securing of service and commission income.<sup>24</sup> By deducting this sum (\$2,058,853) from total expenses for 1927, the maximum expenses remaining as chargeable to the \$9,373,170 service and commission income are \$4,555,121. In other words, income exceeded expenses by 106%; and here again some of the expenses included are not properly chargeable to this income.

The Commission's second method of calculating the percentage profit to Electric Bond and Share for 1927 is still slightly different from that just described. It assumes that special engineering, auditing, and other services were rendered by Bond and Share at cost, as so stated in the contracts in force in 1927. It also assumes that for the year 1927 "all the expenses of the company, except those excluded therein, are applicable to the servicing functions performed for supervised companies and to sales of security issues, even though Bond and Share would have substantial expense as an investment company." Thus:

|  |                           |
|--|---------------------------|
| Total income from services not specifically stated to be rendered at cost..... | \$6,819,609               |
| Deduct expenses attributable to this income as follows:                        |                           |
| Total expenses for 1927.....   | \$6,613,973               |
| Less   |                           |
| Expenses not applicable to supervision.....                                    | \$2,058,852 <sup>25</sup> |

<sup>22</sup> See Table I.

<sup>23</sup> Total expenses here include taxes and interest. If these are excluded, the percentage profit above cost becomes 89%.

<sup>24</sup> The excluded sum was made up of the following items:

|   |            |
|---|------------|
| Alterations, 2 Rector Street Building....                                 | \$ 177,479 |
| Taxes—Federal Income and other taxes.....                                 | 1,461,869  |
| Commissions paid on sale of Electric Bond and Share Co. preferred stock.. | 350,000    |
| Interest paid on notes and accounts payable.....                          | 45,365     |
| Discount and commissions.....   | 15,733     |
| Fees, transfer, and fiscal agent.....                                     | 8,407      |

TOTAL.....\$2,058,853

(See Senate Doc. 92, Parts 23 and 24, 70th Congress, 1st Session, pp. 639-642.)

<sup>25</sup> The same \$2,058,852 excluded by the previous method. See note 24 above.

|  |                         |             |
|--|-------------------------|-------------|
| An amount equal to income from services rendered at cost.....  | 2,553,561 <sup>26</sup> | 4,612,413   |
| Total expenses attributable to income from services not specifically stated as rendered at cost..... | \$2,001,560             | 2,001,560   |
| Profit on above service.....   |                         | \$4,818,049 |
| Percentage of profit (\$4,818,049) to cost (\$2,001,560).....  |                         | 241%        |

In other words, there was an excess of income over expense, for those services which were not specifically stated in the contract to have been rendered at cost, of \$4,818,049, which is 241% of cost.

Thus, by whatever method the profit is calculated it appears to have been substantial. For the 24-year period it could not have been less than 42.3% and was undoubtedly more; for the year 1927 (the only year for which detailed figures are available) the profits from servicing of all kinds and from commissions on the sale of securities could not have been less than 106% of the cost of rendering such services. Furthermore, if we assume that in 1927 certain services were rendered "at cost," as stated in the contracts, the profit on General Supervision income and on security commission income could not have been less than 241% of cost.

#### *Analysis of the Current Contracts*

Early in 1929 the Electric Bond and Share Company effected a revision of its supervision contracts with both its holding and its operating companies. The avowed purpose of these revisions was to secure uniformity and clarity in

<sup>26</sup> The \$2,553,561 supposedly rendered at cost was made up as follows: engineering, \$1,846,276; auditing, \$223,897; special investigations, \$378,633; miscellaneous, \$104,755.

This same amount was deducted from total supervision and commission income for 1927 (\$9,373,170) to get the \$6,819,609 figure which appears above.

<sup>27</sup> Although officers of the Company deny any causal connection, it is interesting to note that the revisions

the contracts and to give the supervised companies the benefit of the increased business of Bond and Share by granting them lower charges.<sup>27</sup> These revised contracts are now in force and it is necessary to compare them briefly with the contracts in force during the preceding years. The principal changes were in the matter of charges.

The new contracts which became operative in the spring of 1929 were of two kinds: (1) a uniform contract for all operating public utilities; and (2) a uniform contract for all holding companies.

*1. Operating Company Contracts.* The new contracts classify supervision under two general headings: (1) General Supervision and Services, and (2) Special Services. General Supervision includes much the same things as were included under this head in the earlier contracts, except that the service is classified under 31 headings in place of 23 in the earlier form. By its general wording the new contract also emphasizes more strongly the operating company's control over the services rendered to it by Bond and Share.<sup>28</sup>

The compensation for General Supervision and Services is still a percentage of gross earnings but on a revised and lower scale. Whereas in the older contracts the percentages ranged from 2% down to 1.6% of the annual gross earnings,<sup>29</sup> in the new contracts the percent-

followed closely upon the heels of the Federal Trade Commission's investigations.

<sup>28</sup> For example, the opening words of the contract are now: "Functioning at all times in cooperation with and subject always to the control of your directors and officers, we will furnish . . .". (See Senate Doc. 92, Parts 23 and 24, 70th Congress, 1st Session, p. 724ff.) This same tone is not apparent in the old contract but is to be found in various places in the new.

<sup>29</sup> Except in the case of Electric Power & Light Corp. and subsidiaries and contracts direct with operating companies where the rate started at 1½%. (See p. 288 *supra*.) The new rates are higher for these companies.

ages range in 16 brackets from 1.6% of the first \$250,000 monthly operating revenue to 0.5% on such revenue over \$5,400,000. This lower percentage schedule, it will be observed, applies to monthly rather than to yearly earnings and as a consequence very few of the operating companies are in a position to achieve the lowest or lower rates.

Compensation on construction remains unchanged, ranging from 5 to 4% depending upon the cost of the project. For supervision of construction projects the rate ranges from  $2\frac{1}{2}$  to 2% of the cost of the job.

For Special Services the charge is still on a pay-roll-cost plus overhead basis. But whereas overhead in the older contracts was on the average in excess of 90% of the pay-roll cost, the new contract provides for an overhead charge of 50% of the pay-roll cost of auditors and accountants and 90% for other employees, mostly engineers.

Commissions on the sale of securities have also been reduced in the new contracts.<sup>30</sup>

**2. Holding Company Contracts.** The new contracts with the holding companies provide for supervision of the affairs of these companies and also for supervision of the affairs of any active<sup>31</sup> holding companies subsidiary to them.

The matters covered by supervision in the case of the holding companies are essentially the same as those for operating companies, so far as applicable to a holding company. That is, a holding company would require General Supervision but ordinarily would not require

any such items as construction projects, rate studies, special investigations.

For supervision services the holding company pays a percentage of gross income as follows:

"For each month an amount will be computed by the application of the following percentages to the aggregate of the gross income of (1) your company, (2) your subsidiary holding companies, and (3) all operating subsidiaries of your company and of its subsidiary holding companies, after eliminating all intercompany income for the month: one eighth of 1 per cent of the first \$4,000,000, one fifteenth of 1 per cent of all additional.

"(In computing the gross income and operating revenues for the purpose of determining the above compensation, there shall be deducted therefrom a sum equal to the amount, if any, paid to your operating subsidiaries for electrical energy, gas or other public utility service purchased by any other company receiving our supervision and general services.")<sup>32</sup>

In addition to the above charges the Electric Bond and Share Company now imposes a charge of \$500 per month for each active holding company subsidiary to the supervised holding company.

Commissions on the sale of securities have been reduced so that they now amount to about half the rates prevailing in the earlier contracts.<sup>33</sup>

Unfortunately it is impossible with the information now available to determine Bond and Share's profits on supervision under the new contracts.

### Summary and Conclusion

The supervision and service contracts used by the Electric Bond and Share Company have undoubtedly been of

<sup>30</sup> On bonds, notes, etc., where the old rate ranged from  $1\frac{1}{4}$  to .5% of the principal amount, the new rate ranges from 1 to .25%. For no-par-value stock sold in customer-ownership campaigns the rate was reduced from \$2.00 per share to one varying between \$1.25 and 75 cents. For other sales of no-par-value shares the rate now varies between \$1.00 and 50 cents per share.

<sup>31</sup> Inactive holding companies are defined as those or-

ganized to hold title to real estate, to hold a name, or for similar purposes.

<sup>32</sup> Part 1, Section 15 of the revised contract with holding companies. The complete contract will be found in Senate Doc. 92, Parts 23 and 24, 70th Congress, 1st Session, pp. 724-730.

<sup>33</sup> See note 30 *supra*.

great value to the supervised companies. At the same time, however, they would seem to be open to certain just criticisms.

As they existed before 1929, the chief criticism of the contracts is the wide divergence between costs and charges; since 1929 the spread has doubtless been reduced but probably it is still quite substantial. The Federal Trade Commission examiners admitted that the supervised companies were well managed, but they also developed that prior to 1929 the supervised companies paid more than twice the costs of such supervision to the Electric Bond and Share Company. All evidence would indicate that the operating companies have been managed efficiently, capably, and aggressively. But the Electric Bond and Share Company could have given equally good service for a smaller charge and still have made a substantial profit. The revised contracts probably allow for a more reasonable spread between costs and charges, although no precise information is available.

Although no more than passing mention has been made of the manner in which the Electric Bond and Share Co. maintains control over the companies associated with it, an examination of the facts will reveal that this control is almost complete.<sup>34</sup> As a consequence, it is a question whether the supervision and service contracts between the controlling and the controlled companies are *free* in any real sense of the term, i. e., represent "arms-length" dealings. Although in word the supervised company may cancel the contract on 60 days' notice, the set-up in control renders this practically impossible without the consent of the Electric Bond and Share Company.

<sup>34</sup> The Federal Trade Commission has investigated this aspect of the Company rather thoroughly. Its findings will be found in Senate Doc. 92, 70th Congress,

Whether the operating companies could have been equally well managed without the Bond and Share service is debatable. Other than supervision by Bond and Share and assuming the contracts to be really "free," the operating companies would have two alternatives open to them: (1) they might hire executives who would devote their whole time to the work of managing and developing the properties; or (2) they might buy a similar supervision service from some other organization than Bond and Share. If, however, capable managers are hired for each operating company these persons would probably devote at least part of their time to work that could be done by less expensive personnel. It would seem desirable, however, to have the most skilled, and therefore the most costly, men devoting their whole time to tasks which they alone can perform. This, of course, is precisely what Bond and Share does. On the whole, the present writer feels that it is impossible to say whether, if the operating companies in the Bond and Share group had provided for themselves everything they received from Bond and Share, the cost to them would have been higher or lower.

Were the operating companies supervised by some outside agency, the charges would have been at least as high as those imposed by Bond and Share. Stone & Webster, Inc., for example, which offers a general supervisory service similar to that of Electric Bond and Share, charges its client operating companies: (1) an annual retainer of \$3,000, and (2) a fee equal to 2.35% of the client's gross earnings.<sup>35</sup> In the case

1st Session, Parts 22, 23, 24, and 25. Lack of space prevents the development of the subject in the present paper.

<sup>35</sup> Senate Doc. 213, 69th Congress, 2nd Session, p. 186.



of W. B. Foshay Company,<sup>36</sup> which did supervision work, the percentages were also higher than those of Bond and Share. These rate comparisons are here introduced, however, merely to indicate what the operating companies would have paid had they bought supervision service from some other organization. The mere fact that other supervisory organizations charge as much or more than Bond and Share does not, of course, establish the fairness of the Bond and Share rates unless it first be proven that the rates of the other organizations are not excessive, and that substantially the same service is provided in each instance.<sup>37</sup> From what information is available it seems probable that supervision and service charges have been unnecessarily high in the majority of instances.

Had public thought and opinion never taken the position that the power and light industry was one requiring very careful regulation and supervision, there would perhaps be little occasion for criticizing the unusually large profits earned by the Electric Bond and Share Company by reason of its supervision

and service contracts. But the public attitude has been distinctly otherwise, and every state in the Union, with the exception of Delaware, has established some agency to protect the public interest. The powers of the state commissions over holding companies, however, have in the past been very slight indeed. Yet where the relationships between operating companies and holding companies are as intimate as in the Electric Bond and Share Company, it is extremely doubtful if any satisfactory review or regulation of operating companies is possible without access to the books of the holding companies which control them and sell them service. It has been shown that the servicing of its operating companies has yielded large profits to the Electric Bond and Share Company (especially before 1929), yet the charges made to the operating companies were presumably reasonable and allowable expenses from the point of view of the state commissions, since they had no way of determining to what extent such charges were excessive in view of the cost of rendering them.<sup>38</sup>

<sup>36</sup> In this Company which later got into financial difficulties, the charge for general supervision was as follows:

|                                  |                                    |
|----------------------------------|------------------------------------|
| First six months of supervision  | no charge                          |
| Second six months of supervision | $\frac{3}{4}$ of 1% of gross earn. |
| Third six months of supervision  | 1% of gross earn.                  |
| Fourth six months of supervision | $1\frac{1}{4}$ % of gross earn.    |
| Third year of supervision        | 2% of gross earn.                  |
| Thereafter                       | $2\frac{1}{2}$ % of gross earn.    |

On all construction work the charge was 10% of the cost of the job. (For a copy of the supervision contract of this Company see Senate Doc. 92, 70th Congress, 1st Session, Part 25, pp. 353-361.)

<sup>37</sup> Cf. Bonbright and Means, *op. cit.*, pp. 182ff.

<sup>38</sup> Two recent United States Supreme Court cases rather indicate that the state commissions may require a holding company to show cost of service. In *Smith v. Illinois Bell Telephone Co.*, 282 U. S. 133 (1930) the Court declared: "We see no reason to doubt that valuable services were rendered by the American Company, but there should be specific findings by the Statutory court with regard to the cost of these services to the American Company . . ."

In the same case the Court also said: "In rate pro-

ceedings, the cost and profit to the affiliate of managerial or supply contracts may be considered in determining the reasonableness of the price paid by the utility."

In *Western Distributing Co. v. Public Service Commission of the State of Kansas, et al.*, 285 U. S. 119 (1931) Mr. Justice Roberts wrote: "The State authority . . . is certainly entitled to be informed whether advantage has been taken of the situation to put an unreasonable burden upon the distributing company, and the mere fact that the charge is made for an interstate service does not constrain the Commission to desist from all inquiry as to its fairness. Any other rule would make possible the gravest injustice, and would tie the hands of the state authority in such fashion that it could not effectively regulate the intrastate service . . ."

And also: . . . "The reasonableness of intercompany charges must necessarily be the subject of inquiry and scrutiny before the question as to the lawfulness of the retail rate based thereon can be satisfactorily answered."

But see report of cases 7413, 6355, 7095, 7371 (decided June 14, 1932) before New York State Public Service Commission concerning the same problem of showing cost of service—in this case to Associated Gas & Electric Co.

The commissions have had to take what they could find and hope for the best.

If we are to have an effective check on the power and light industry under private enterprise, we cannot continue to ignore the holding companies when the relations between holding companies and operating companies are so intimate and so frequently a source of large and unwarranted profits. It seems

clear that either the holding companies must be forced to supply the state commissions with data sufficient to determine the reasonableness of holding company service charges, or some federal regulatory body must be set up which can ascertain the same information and supply it to the state commissions. The present state of affairs is certainly highly unsatisfactory.

# The Minor Street

By HERBERT S. SWAN

THE great importance of the so-called minor street in the home life of the average community has in the past been very inadequately understood. The minor street should, of course, carry a minimum volume of traffic. But, except as to this one quality as a carrier of traffic, the minor street need not—indeed, it should not—be subordinate to the major street. The two types of street, instead of being competitive with one another, should rather excel, each in its own field—the major street as an arterial highway carrying large volumes of traffic and the minor street as a right of way affording adequate ingress and egress for abutting property, and emphasizing and bringing out the amenities of residential development.

## *The Curved Street*

Our early planners made an apotheosis of the straight street; they abominated the curved street. The result was that, whether the engineer was Thomas Holme, Richard Beard, Joseph Ellicott, Thomas Ralston, John Randel, Jr., or L'Enfant himself, the curved street as such was entirely omitted from every official plan adopted during the first 300 years of our city planning history. Not until 1868, when a plan was adopted for that portion of Manhattan Island north of 155th Street, does the curved street seem to have made its first appearance in an official plan of an American city. Prior to this time curved lines had been used in the State House and Church circles of Annapolis and in traffic circles laid out in Washington, Buffalo, Detroit, and Indianapolis, but

the curved street as a typical everyday street had not been utilized in an official city plan. Such curved streets as existed in the older parts of cities like New York and Boston had developed quite informally as isolated bits of piecemeal planning. They had never been incorporated as parts of an official city plan.

The discovery that streets might be curved came as something of a surprise to our cities. Except for the Governor's and Judge's plan of Detroit prepared in 1807, our city plans had been remarkably free from all sorts of schematic patterns and fads during the first 200 years of our history. The introduction of the curved street, however, changed all this. Although the curved streets used in the Manhattan plan of 1868 had been discreetly and sparingly used only where topography demanded such a layout, this fact was soon lost sight of and it was not many years before landscape architects and surveyors vied with one another to see who could develop a street plan with the greatest number of curved streets. Fortunately, these plans applied only to isolated subdivisions; none, apparently, was worked out for a whole city.

Some of these subdivision plans show streets curving this way and that way for no other reason than to introduce a curve in the alignment of the street. Other subdivision plans adopted all sorts of weird geometric patterns, such as concentric circles, crescents or wheel shaped designs, few of which, of course, bore any relationship to the topography of the site. The justification for these streets was that they afforded superior

settings for buildings and introduced vistas in street design. That some of the curved street plans were successful adaptations of plan to site cannot be denied; the plans of such subdivisions as Park Hill in Yonkers, Roland Park in Baltimore, and Lawrence Park in Bronxville, all admirably related the alignment of streets to topography through a discriminating use of gently curving lines to conform with the contours.

But as against such discreet use of curvilinear lines, there were other developments where a fetish was made of curves; a street was bent either to the right or to the left, every so often, for no other reason than to reduce the length of its straight stretch. Such treatment imparted a restless, nervous feeling to the whole development; needless to say, these curved streets were not nearly so successful as plain, ordinary, rectangular streets.

Such subdivisions proved that curved streets are not necessary in order to make an interesting plan. Curved streets, if continuously curving for the mere sake of curving and not to conform to the topography, may be as uninteresting and monotonous as a rigid rectangular street plan.

#### *Rectilinear Streets*

Variety, in the form of an occasional plaza, a green, a small park, a circle, or a parkway, can be introduced into a rectangular plan in a manner to give it considerable interest and originality. Nor is it necessary, just because the main theme of a plan is rectangularity, that all streets should possess the same length and that all blocks should be exactly the same size and be oriented in identically the same way. Here, too, variety may be introduced to break up the sameness of the usual gridiron plan by chang-

ing the size and orientation of blocks, and by varying the length of the minor streets, so that each street and each block may possess a certain amount of individuality all its own. Through the platting of wide lots and the discreet use of adequate building lines, interesting vistas can be created, not only at the termini of the several streets but on their sides to give each street a distinctive appearance.

Easy grades, continuity, directness, the shortest distance are all important in designing major thoroughfares. But these considerations can be accorded a comparatively subordinate place in laying out minor streets. Among the strictly local streets in a community, those streets which are to be used permanently for dwellings, the easiest grade does not count for so much as the preservation of the natural lay of the ground; mere continuity of street length is less desirable than the quality of domestic charm that comes from a terminable street; and directness is not to be prized nearly so much as a street design which discourages and tends to exclude through traffic. In other words, the character of each street should reflect in its design its primary purpose.

#### *The Cul-de-Sac*

Dead-end streets undoubtedly have, when discreetly used, a place in the street plan. On a long, narrow ridge or on a slender spit of land projecting out into a body of water, a blind street may be the only practicable street to use in subdividing an area. Such instances are, however, comparatively rare and, when they do occur, they are not to be confused with a typical average problem in land subdivision. Some of the best illustrations showing successful use of the dead-end street are found in Baltimore, New Rochelle, and St. Louis.



The chief argument advanced in favor of the dead-end street is that it excludes traffic from the home and the home is thus made safe for children. That the dead-end street does exclude through traffic cannot be denied. But whether the narrow, dead-end street is per se safer to the pedestrian, and especially to children, than the type of street used in such notable developments as Forest Hills, Palos Verdes, St. Francis Wood, Coral Gables, Shaker Heights, Mariemont, Yorkship Village, Roland Park, and scores of other attractive subdivisions is quite another matter. Every indication suggests that the cul-de-sac, even as developed in Radburn, when considered apart from other features that are unique to its development, such as the parks in the interior of the block, is more dangerous to life and limb than the typical residence street in our best planned suburbs.

One can hardly suppress a feeling of real regret that the City Housing Corporation, which is doing such valiant work in providing small homes at reasonable prices, through the application of large-scale production methods to building, should have found it necessary not only to adopt, but to feature, the cul-de-sac as the central idea in the street plan of Radburn. Until it was espoused by this limited dividend company, the blind street, though all too frequently utilized in wildcat real estate developments, stood in a fair way of being completely ostracized by nearly all reputable developers.

The use of the cul-de-sac in Radburn has, however, had the effect of clothing the blind street with a new respectability. Wildcat developers who during the past two decades had experienced increased difficulty in securing official approval of their narrow, blind, offset streets are now, armed with the force of

the Radburn example, readily obtaining the necessary legal approval to plans as bad as anything that has been filed in many years. It is entirely too bad that a well-intentioned company, which has had the audacity to break away from so many age-long customs in applying new concepts to housing and town planning, should have committed the grave error not only of sanctioning but of making a cardinal feature of a type of street plan which has nearly everywhere heretofore been thoroughly discredited. In characterizing all residence streets with both ends open to traffic as horse-and-buggy streets and at the same time identifying its own dead-end streets as essential parts of the town for the motor age, the City Housing Corporation, it is feared, is unwittingly helping to play the game of the wildcat subdivider who has brought so much woe to our American cities.

#### *Block Unit*

The size of block is naturally very closely related to the street plan. Not only does it establish the frequency of the more or less parallel and intersecting streets; it also fixes the proportion of the total area included within the street lines. Some of the early city plans, such as those of Philadelphia, New Orleans, Columbia, Indianapolis, and Salt Lake City, laid down a substantially square block. Other plans, such as those of Buffalo, Savannah, Reading, Erie, New York, and Brooklyn laid down a system of oblong blocks.

The square block varied all the way from 300 feet square, as in New Orleans, to 660 feet square, as in Salt Lake City. The small square is objectionable in that it saddles a disproportionate amount of street area upon a city as well as too great a frequency in streets. The excessive length of street resulting

from the small square involves an inordinate outlay in the matter of utilities and street maintenance, while the short interval between intersecting streets accompanying use of the small square causes a needless interference and hazard to local traffic. A large square, on the other hand, usually presents such difficulties in the platting of lots that it involves considerable waste of land. The blocks are, in other words, so big that it is practically impossible to plat them in a manner to produce an effective and economic use of the rear portion of the lot. In some instances an extra lot or two has been obtained by cutting off what would otherwise be the rears of the lots fronting upon the principal streets and merging the pieces into a lot or lots fronting upon the side streets. Such treatment has created what is usually called a "butt lot," a type of lot which it is usually desirable to avoid. Where the introduction of butt lots has not resulted in a sufficiently profitable utilization of the interior land in the block, recourse has usually been had to a resubdivision of the block through the introduction of new streets—frequently blind streets. Such replattings have probably done more than any other change to alter the original block layouts of such cities as Philadelphia and Salt Lake City.

An oblong block unit, provided it is not more than 250, or at most 300, feet wide, obviates most of these difficulties. The depth of the lots being proportioned to the requirements of the average one- or two-family dwelling, there is little or no waste land in the heart of the block. Where the length of the block, moreover, parallels the main stream of traffic, movement through the community is, as a result of the reduction in the number of intersecting streets, rendered both safer and more rapid. Another im-

portant consideration in connection with the oblong block is that the cost of utilities and street maintenance per lot diminishes as the length of the block increases. It is therefore advisable to have the block about as long as will not unduly inconvenience traffic. This will usually mean a block length of between 600 and 800 feet, although, in case of steep hillsides, blocks of 1,600 to 2,000 feet may, on occasions, be allowed in order to reduce to a minimum the number of cross-streets at right angles to the contours.

#### *Curvilinear Streets on Hillsides*

On hilly ground some layout other than a rigid gridiron plan is almost indispensable to a satisfactory development of the land. It is less expensive; it saves cut and fill; it avoids steep grades; it leaves lots more accessible, at the same time that it provides street lines better adapted to an economical sewerage system. It also results in streets which are less expensive to maintain. When unpaved streets have a grade above a certain amount, the downhill rush of water in a heavy rain is so forceful that it results in serious washouts. Streets laid out on steep hill slopes, by following the contours to the extent required for reasonable grades, suffer from this disability far less than those laid out at right angles to the contours.

How to avoid steep and crooked streets on uneven ground is always more or less of a problem. The grading of every residence area is always closely related to the street design. On comparatively level land, the streets may be placed about even with the natural surface of the ground; the cellar excavations will usually raise the lot level sufficiently above the street to permit satisfactory drainage. But on rough

ground, unless particular care is taken in laying out streets to fit the contours, excessive cutting and filling must be undertaken, not only to make the streets passable but to make the lots available for improvement. To secure a satisfactory result that is both economical and attractive, it is, of course, essential to take the transverse slopes of the ground into account in fixing the exact location of each street, so that the houses on the uphill side be not too high above the street and the houses on the downhill side be not too much below the street. The maintenance of the natural ground surface usually results in a much more original and interesting treatment of an undulating site than does its ruthless grading in an attempt to remake its topography. This is evidenced in a splendid manner by the Lawrence Park development in Bronxville.

Narrow streets have a very distinct advantage over wide streets in meeting the exigencies created by steep, transverse slopes as the volume of cut and fill increases directly as the square of the street width. The need for narrow streets, therefore, obviously increases with the ruggedness of the topography unless the streets are to be aligned at right angles to the contours in which case they will, of course, have maximum grades. The location of nearly every street on a steep hill slope presents a very nice problem of balancing the simultaneous need for a satisfactory grade, an adequate width, and a minimum cut and fill.

#### *Building Lines and Street Grades*

But the preservation of the natural ground surface of an area usually involves more than a judicious location of the street. It also includes an appropriate adjustment of the lot length on the two sides of the street, with refer-

ence to the steepness of the slope, so that houses may be located to take up the natural gradient of the ground and thereby obviate unnecessary grading. Thus, instead of leveling the lots on sidehill streets, some communities have obtained a very satisfactory and pleasing effect by placing the houses on the downhill side comparatively close to the street, while setting the houses on the uphill side a much greater distance back upon the lot. Such treatment usually necessitates a somewhat greater lot depth on the uphill than on the downhill side, but the economy resulting from less grading in many instances more than balances the increased cost of land. It also avoids the very top-heavy and unbalanced appearance presented by homes built on the uphill side of very steep hill slopes. The manner in which the houses have been set on such hillside streets as South Mountain Avenue, Upper Mountain Avenue, and Highland Avenue in Montclair show very concretely the vast aesthetic and practical gains to be obtained from an appreciative understanding of the requirements in planning hilly areas.

#### *Topographical Obstacles and City Development*

Minor topographical obstacles have, in many communities, been permitted to play entirely too big a role in determining the design of the street plan. This is particularly true of small creeks and ravines. Take Albany, for example: the chief distinguishing feature of Albany's environment is the many ravines criss-crossing all parts of the city. If properly developed, the environs of these ravines could be made the choicest residence localities of the capital city.

But what do we find these ravines to be today? Each and every one of them acts as a barrier to communication be-

tween different parts of the city. Areas located on opposite sides of a ravine, though only a few hundred feet apart, are miles away from one another as measured by the shortest street distances. Neighbors residing on either side of ravines never meet one another; they frequent separate churches, separate schools. As now ignored, these ravines are a very real blight to Albany. They cramp development; they force development into awkward channels; they help to foist an inferior development upon areas which should be developed in a superior manner. Owners on the brink of these ravines, disheartened at ever being able to put their land to a better use, have in many instances utilized their properties as dumps for refuse and ashes. Each of these dumps has become the nucleus of an inferior type of development, paralyzing the proper development of the neighborhood still more.

But there is in Albany, as in many other cities, still time to treat such ravines and creeks in a rational manner. Developed as parkways and boulevards, with frequent cross-streets that would knit the two opposite banks together as one neighborhood, the land contiguous to these ravines and creeks would, in many instances, be among the most valuable residential lands in the city. In many communities the property that is today a distinct liability to both city and owner may, when intelligently developed in accordance with sound planning principles, become one of the most valuable and beautiful assets of a proud city.

#### *Location of Sidewalks on Hill Streets*

Many cities with steep hillsides act blindly on the principle that the sidewalks must be placed at substantially the same level as the roadway pavement. On level ground it is, of course, de-

sirable to have the sidewalk only six or eight inches above the roadway. To have it lower may on occasion result in storm-water overflowing the curb; to have it higher, results only in needless obstruction to ready communication between sidewalk and roadway. But such considerations may be brushed aside on a very hilly terrain. There the general lay of the ground will frequently justify placing the uphill sidewalk several feet above the roadway level, in order to make it conform to the elevation of the lot in front of the house. A somewhat wider planting strip than normal will facilitate such treatment. On occasions there may be warrant for placing even the downhill sidewalk, too, below the roadway level, but the downhill sidewalk will seldom stand as much depression as the uphill sidewalk will stand elevation. In such communities as Hastings-on-Hudson and Tarrytown sidewalks located at some height above the curb have been used to very good effect not only in preserving but in enhancing the attractive appearance of residence streets.

#### *Width of Street*

What should be the width of a minor street is probably a matter on which it would be difficult to get most people to agree. Some would make a minor street a mere lane. Thus in Lawrence Park, Bronxville, in many respects a hilly subdivision of unusual merit, the subsidiary streets are only 14 feet wide. In Radburn, the minor streets in the development are but 24 feet wide. Such a narrow width is, however, extreme. In most residence suburbs the streets are at least 40 or 50 feet wide, and in many, 60 feet wide. On the whole, the tendency is, however, toward the greater street width.

Every minor street should have its



width fixed with reference to the purpose it is to serve in a street plan. A subsidiary street serving a small, geographically isolated area developed with estates is obviously not to be confused with the average street in the typical residence suburb. The width of street accorded in the two cases may very reasonably be different. In one case there would be practically no pedestrian traffic; in the other, sidewalks would be a prime necessity. In the former case, a very informal street would best serve the development; in the latter, a formal roadway and planting treatment would be practically obligatory.

The requirements of the average typical residence street can usually be considered under three headings: (1) necessary roadway space; (2) desirable sidewalk widths; and (3) satisfactory planting strips. What would constitute satisfactory provision for these several purposes? This is a question that admits of various answers. A minimum provision would be one matter; an optimum provision, an entirely different matter. But with due regard to all the different needs of a minor street, the writer feels that it should normally have a width of approximately 66 feet in order to fulfill its functions in the most satisfactory manner.

An area developed with estates may possibly get along with a 20-foot roadway and require neither sidewalks nor planting strips but such instances are exceedingly few. The history of residence development in this country shows, moreover, a steady resubdivision of estate developments into smaller and smaller parcels. In time, even what is now an exclusive residence park with acreage plots may become a neighborhood with small lots. At such a time it will be in urgent need of minor streets that will have a satisfactory width.

The typical residence street almost always demands a roadway of at least 26 feet. Most localities had probably better make sure while they can that this width may, when needed, be increased to a minimum of 34 feet. Then there are the sidewalks and the planting strips. A sidewalk should seldom be less than four feet wide, and five feet would in many cases be a much better width. The walks should, of course, be placed at least a foot from the property line, so that passing pedestrians need not brush against hedges, walls, or fences. Walks placed at the curb are highly unsatisfactory. In the first place, their location alongside the roadway pavement emphasizes the paved portion of the street. Pedestrians walking near the outer edge of the sidewalk are, moreover, very liable to be splashed on rainy days by rapidly passing cars. The accident hazard to pedestrians is also increased on sidewalks near the curb. But entirely apart from these considerations, if a street is to be planted with trees, the trees on the normal residence street should be placed between the sidewalk and the curb. To obtain a healthy, vigorous tree growth requires a space on either side of at least 10 feet. Summing up these requirements gives a width varying between 56 and 66 feet for a minor street. The smaller width makes no provision for future roadway widening. Looking ahead to a four-lane street, it is evident that the average minor street complying with optimum, rather than minimum, standards in city planning should normally have a width of 66 feet.

#### *Convertibility of Streets to New Uses*

The street plans of some recent developments imply planning for permanence. Have we in this country as yet achieved a stage in our city develop-

ment where we can say that a particular area shall forever and ever remain a one-family house district? Had our present cities adopted such iron-clad, unchangeable plans only 50 years ago, they would not exist as we know them today. But suppose that in their growth they would have had to contend with super-blocks, streets continuously curving, yet going nowhere, offset streets, streets of alley widths, and dead-end alleys on every side—what then? Would not our present cities, considering the circulation of traffic, be infinitely worse off than they are? What has helped to save the situation at all has been such convertibility and adaptability of use as the street and block layout have possessed. If neither could have been changed to meet changing conditions, then verily we would have been doomed.

This is not to deny that there are areas on the outskirts of nearly every city, regardless of size, which, because of their topography or geographical isolation can be set aside permanently as residence districts for small dwellings. But especially great care should be taken in laying out such areas, even near the business centers of very small communities, lest the future growth of the city may unexpectedly be blocked by an unadaptable street plan which cannot possibly be adjusted to the new requirements of the larger community. A street pattern which will permit a certain elasticity and flexibility in the adaptation of an area to new uses is still such a valuable prerequisite to a satisfactory street plan in determining its availability for any particular area that it should by no means be lightly abandoned.

Wherever a small village]has grown into a town, or a small town into a city, it has been through a convertibility of use; areas originally improved as resi-

dence districts have been changed into business and industrial areas. The residence areas of today have invariably become the commercial districts of tomorrow. This may have been a weakness in our city development; it has unquestionably produced much weakness in the character of our city growth, and it has been accompanied with a prodigious amount of economic waste. Yet, this is nevertheless the way in which we have grown. And in light of present conditions, despite all the progress we may have made in city planning and zoning, it seems to be the method which will continue to characterize much of our future city growth.

Many of the residence streets in every city are, no doubt, badly designed. But, granting an appropriate street width, this is largely a matter of a satisfactory cross-section, apportioning the street into requisite roadway, sidewalk, and planting strips. It is certainly not a problem of making the street permanently worthless as a potential highway and utterly incapable of caring satisfactorily for new uses of property. The solution lies rather in a flexible design for each particular street, which during the initial stage will discourage through traffic, but which may, upon demand, in the face of changing conditions, be readily adapted to a new use through a roadway widening.

Experience shows that even residence districts do not thrive permanently upon narrow streets. Even one-family dwellings on 50-foot lots require streets of a fair width. Narrow streets in a residence district may serve their area adequately for a few years, while the district is comparatively undeveloped. But just as soon as a neighborhood develops and the inadequacy of its streets becomes evident, economic decay overtakes the district and subjects it to a

permanent blight. The higher values in residence districts, just as in business districts, almost invariably follow the streets of a satisfactory width.

Generalizations in city planning are always dangerous, and probably in no instance more dangerous than in the matter of street design. But in so far as experience teaches us anything, it is this: each minor street must be designed with reference to its own particular location and purpose. No empirical rule can be laid down to govern all cases. Rectangular streets, curvilinear streets, cul-de-sacs—all have their place in the street plan. No particular type of street should be used, regardless of circumstances, to the ex-

clusion of all other types of streets. Fadish and freakish designs should everywhere be avoided. Each type of street should be used with discrimination wherever it will best fit the ground, as well as promote the greatest well-being of the abutting residences. Where the location is such as to exclude future changes of use in the abutting frontage, the street may be planned for permanence, but if there is any indication that the adjoining land may be put to new uses, then the street should be planned with a view to convertibility. But, above all, the minor streets in any layout should be designed to serve the best residence use of the property which abuts them.

# MUNICIPALLY OWNED GENERATING PLANTS IN EXISTENCE IN THE UNITED STATES AS OF DECEMBER 31, 1932

Compiled by Paul Jerome Raver from the Records of the Institute for Economic Research  
(Footnotes at the end of the Table)

KEY FOR COLUMNS (1) AND (2):  
Pr.—municipally owned replaced private at date of origin.  
S.—steam engine  
S. T.—steam turbine  
O.—oil engine  
G.—gas engine  
I.—other types of internal combustion engines  
W.—hydro-electric

KEY FOR COLUMN (4):  
G. P.—now generating part and purchasing part of output  
C.—now competing with a private plant  
St. L.—now generating for street lighting and other municipal purposes only.  
Pr. L.—private company now leases municipal plant.  
Pr. S.—private company also serves.

| Town                | Date of Origin and Type of Prime Mover at Origin<br>(1) | Type of Prime Mover as of Dec. 31, 1930<br>(2) | Total Horse-power Capacity as of Dec. 31, 1930<br>(3) | Description as of Dec. 31, 1930<br>(4) | Town                         | Date of Origin and Type of Prime Mover at Origin<br>(1) | Type of Prime Mover as of Dec. 31, 1930<br>(2) | Total Horse-power Capacity as of Dec. 31, 1930<br>(3) | Description as of Dec. 31, 1930<br>(4) |
|---------------------|---|--|---|--|------------------------------|---|--|---|--|
| <b>Alabama</b>      |   |  |   |  | <b>Colorado (cont'd)</b>     |   |  |   |  |
| Cullman.....        | 1900-S  | S, S. T.                                       | 1,550   |  | Wray.....                    | Pr., 1920-S   | S  | 550   |  |
| Dothan.....         | 1900-S  | S, S. T.                                       | 2,450   | G. P.                                  | Yuma.....                    | 1915-O  | S  | 350   |  |
| Fairhope.....       | 1916-O  | O  | 300   |  | Total.....                   |   |  | 32,115  |  |
| Total.....          |   |  | 4,300   |  | <b>Connecticut</b>           |   |  |   |  |
| <b>Arizona</b>      |   |  |   |  | Norwich.....                 | Pr., 1904-S   | S, T, W  | 10,250  | G. P.                                  |
| Tombstone.....      | 1928-O  | O  | 280   |  | South Norwalk.....           | 1892-S  | O  | 1,600   | G. P.                                  |
| Wickenburg.....     | 1917-G  | O  | 200   |  | Wallingford.....             | 1899-S  | S, S. T, W                                     | 1,150   | G. P.                                  |
| Total.....          |   |  | 480   |  | Total.....                   |   |  | 13,000  |  |
| <b>Arkansas</b>     |   |  |   |  | <b>Delaware</b>              |   |  |   |  |
| Augusta.....        | Pr., 1913-S   | S, O   | 620   |  | Dover.....                   | 1900-S  | S, S. T.                                       | 2,200   |  |
| Benton.....         | 1918-S  | O  | 1,080   |  | Lewes.....                   | 1900-S  | O  | 930   |  |
| Bentonville.....    | 1886-S  | S  | 350   |  | Middletown.....              | Pr., 1893-S   | O  | 440   |  |
| Clarksville.....    | 1912-Pr   | O  | 1,130   |  | Milford.....                 | 1887-S  | S, T.  | 1,100   |  |
| Conway.....         | Pr., 1907-S   | O  | 1,645   |  | Total.....                   |   |  | 4,670   |  |
| Forest City.....    | Pr., 1907-S   | O  | 1,300   |  | <b>Florida</b>               |   |  |   |  |
| Hope.....           | 1896-S  | S, T.  | 2,400   |  | Alachua.....                 | 1913-S  | O  | 150   | G. P.                                  |
| Jonesboro.....      | 1905-S  | S, T.  | 6,825   |  | Barlow.....                  | 1904-S  | S, S. T.                                       | 2,060   |  |
| Osceola.....        | 1912-S, O   | O  | 1,050   |  | Fort Meade.....              | 1914-I*   | O  | 660   | Pr. S.                                 |
| Paris.....          | 1920-S  | S, S. T.                                       | 1,600   |  | Fort Pierce.....             | 1912-S  | O, S. T.                                       | 3,650   |  |
| Prescott.....       | 1903-S  | O  | 600   |  | Gainesville.....             | Pr., 1912-S   | S, S. T.                                       | 3,920   |  |
| Siloam Springs..... | 1898-S  | S  | 325   | Pr. S.                                 | Green Cove Spgs.....         | 1911-O  | O  | 680   |  |
| Total.....          |   |  | 19,025  |  | Homestead.....               | 1917-O  | O  | 1,200   |  |
| <b>California</b>   |   |  |   |  | Jacksonville.....            | Pr., 1893-S   | S, T.  | 73,000  |  |
| Anaheim.....        | Pr., 1894-S*  | G  | 400   | G. P.                                  | Kissimmee.....               | 1900-S  | O  | 1,215   |  |
| Avalon.....         | 1910-S, O   | O  | 3,870   |  | Lake Helen.....              | 1913-S  | O  | 280   |  |
| Los Angeles.....    | 1914-W  | W, O   | 199,700   | C. G. P.                               | Lake Worth.....              | 1914-O  | O  | 3,125   |  |
| Palo Alto.....      | 1898-S  | O  | 1,750   | G. P.                                  | Lakeland.....                | 1886-S  | S, T.  | 16,875  |  |
| Pasadena.....       | 1906-S  | S, S. T.                                       | 42,000  | G. P.                                  | Moore Haven.....             | 1918-G  | O  | 390   |  |
| Total.....          |   |  | 207,720   |  | Newberry.....                | 1913-S  | S  | 100   | Pr. S.                                 |
| <b>Colorado</b>     |   |  |   |  | New Smyrna.....              | 1920-O  | O  | 1,650   |  |
| Burlington.....     | 1917-S  | S  | 325   |  | Ocala.....                   | Pr., 1898-S   | S, S. T.                                       | 1,350   | G. P.                                  |
| Colo. Springs.....  | 1925-W, S. T.   | W, S. T.                                       | 15,688  |  | Orlando.....                 | 1923-S, T.  | S, T.  | 14,800  |  |
| Creede.....         | 1922-W  | W  | 50  |  | Polk City.....               | Pr., 1927-O   | O  | 120   |  |
| Crested Butte.....  | 1924-S, O, W  | S, O, W  | 145   |  | Quincy.....                  | Pr., 1903-S   | S  | 708   | G. P.                                  |
| Crook.....          | 1918-O  | O  | 57  |  | Saint Cloud.....             | 1916-O  | O  | 760   |  |
| Flagler.....        | 1920-O  | O  | 275   |  | Saint Petersburg.....        | 1923-O  | O  | 4,250   | St. L.                                 |
| Fleming.....        | 1921-O  | O  | 150   |  | Sebring.....                 | Pr., 1923-S   | O  | 2,200   |  |
| Fort Morgan.....    | 1906-S  | S, T.  | 3,334   |  | Starke.....                  | 1903-S  | O  | 440   | Pr. L.                                 |
| Grover.....         | 1916-O  | O  | 50  |  | Tallahassee.....             | 1923-S  | S, T, O, G                                     | 1,615   |  |
| Gunnison.....       | 1906-S  | S  | 672   |  | Vero Beach.....              | 1920-O  | O  | 1,150   |  |
| Haswell.....        | Pr., 1924-O   | O, G   | 45  |  | Wauchula.....                | 1913-Pr   | O  | 760   |  |
| Haxton.....         | 1918-O  | O  | 700   |  | Williston.....               | 1924-O  | O  | 220   |  |
| Holyoke.....        | 1910-S  | S, O   | 500   |  | Total.....                   |   |  | 137,573   |  |
| Julesburg.....      | 1910-S  | S, O   | 1,190   |  | <b>Georgia</b>               |   |  |   |  |
| Lamar.....          | Pr., 1920-S, S. T.                                      | S, T.  | 5,000   |  | Adel.....                    | Pr., 1908-S   | S, T, O  | 210   | G. P.                                  |
| Longmont.....       | 1912-W  | W  | 800   | G. P.                                  | Cairo.....                   | 1906-S  | S  | 350   | G. P.                                  |
| Loveland.....       | 1924-W  | W, O   | 2,100   |  | Crisp County (Cordelle)..... | 1930-W  | W  | 21,000  | C                                      |
| Peets.....          | 1917-G  | O  | 109   |  | Douglas.....                 | 1906-S  | S, S. T.                                       | 625   | Pr. S.                                 |
| Walden.....         | 1917-O  | O  | 25  |  | Dudley.....                  | 1918-I  | I  | 8   |  |
|                     |   |  |   |  | Elberton.....                | 1895-W  | S, W   | 400   | G. P.                                  |



## MUNICIPALLY OWNED GENERATING PLANTS

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| Town                         | Date of Origin and Type of Prime Mover at Origin (1) | Type of Prime Mover as of Dec. 31, 1930 (2) | Total Horse-power Capacity as of Dec. 31, 1930 (3) | Description as of Dec. 31, 1930 (4) | Town                    | Date of Origin and Type of Prime Mover at Origin (1) | Type of Prime Mover as of Dec. 31, 1930 (2) | Total Horse-power Capacity as of Dec. 31, 1930 (3) | Description as of Dec. 31, 1930 (4) |
|------------------------------|--|---|--|-------------------------------------|-------------------------|--|---|--|-------------------------------------|
| <i>Georgia—(cont'd)</i>      |  |   |  |                                     | <i>Indiana (cont'd)</i> |  |   |  |                                     |
| Ellaville                    | 1912-O   | O   | 75   |                                     | New Harmony             | Pr., 1904-S  | S, O  | 380  |                                     |
| Fitzgerald                   | 1899-S   | S   | 1,100  |                                     | Oxford                  | 1898-S   | S   | 275  |                                     |
| Fort Valley                  | 1905-S   | S   | 822  |                                     | Peru                    | Pr., 1900-S  | S, T  | 8,375  | G. P.                               |
| LaFayette                    | 1916-S   | S   | 120  | G. P.                               | Portland                | 1892-S   | S, T  | 2,240  |                                     |
| Plains                       | 1920-O   | O   | 168  |                                     | Rensselaer              | Pr., 1898-S  | S, O  | 1,700  |                                     |
| Sandersville                 | 1903-S   | S, O  | 650  |                                     | Richmond                | Pr., 1902-S  | S, T  | 22,500   | Pr. S.                              |
| Sylvania                     | 1910-S   | O   | 240  |                                     | Rockville               | Pr., 1900-S  | S, S, T                                     | 350  | G. P.                               |
| Thomasville                  | Pr., 1906-S  | S, T  | 6,250  |                                     | Rushville               | 1893-S   | S, S, T                                     | 3,000  |                                     |
| Total                        |  |   | 32,018   |                                     | South Whitley           | Pr., 1910-S  | O   | 720  |                                     |
| <i>Idaho</i>                 |  |   |  |                                     | Vevay                   | 1897-S   | O   | 440  |                                     |
| Bonniers Ferry               | Pr., 1922-W  | W   | 750  |                                     | Warren                  | 1901-S <sup>11</sup>                                 | O   | 360  |                                     |
| Challis                      | 1920-O   | O   | 50   |                                     | Washington              | Pr., 1909-S  | S, T  | 3,000  |                                     |
| Idaho Falls                  | 1900-W   | W, O  | 4,475  |                                     | Total                   |  |   | 143,830  |                                     |
| Soda Springs                 | Pr., 1916-W  | W   | 250  |                                     | <i>Iowa</i>             |  |   |  |                                     |
| Total                        |  |   | 5,525  |                                     | Ackley                  | Pr., 1906-S  | S, O  | 615  |                                     |
| <i>Illinois</i>              |  |   |  |                                     | Akron                   | 1910-O   | O   | 660  |                                     |
| Altamont                     | 1902-S   | S   | 300  |                                     | Algona                  | Pr., 1904-S  | S   | 1,145  |                                     |
| Aurora                       | 1887-S   | S   | 600  | G. P., St. L.                       | Alta                    | 1896-S   | S   | 350  | G. P.                               |
| Bethany                      | 1915-O   | O   | 250  |                                     | Ames                    | 1896-S   | S, T  | 3,810  |                                     |
| Bloomington                  | 1886-S   | S, S, T                                     | 2,250  | G. P., St. L.                       | Atlantic                | 1889-S   | S, S, T                                     | 2,606  |                                     |
| Breesa                       | 1907-S   | S   | 214  |                                     | Bellevue                | 1896-S   | S   | 550  |                                     |
| Carlyle                      | 1899-S   | S   | 670  |                                     | Bloomfield              | 1894-S   | O   | 740  |                                     |
| Carmel                       | Pr., 1904-S  | O   | 660  |                                     | Cedar Falls             | 1914-S   | S, S, T, O                                  | 3,500  |                                     |
| Casey                        | 1902-S   | O   | 600  |                                     | Coggon                  | 1912-S <sup>11</sup>                                 | O   | 180  |                                     |
| Chicago                      | 1887-S   | S, T, O, W                                  | 50,400   | G. P., St. L. <sup>11</sup>         | Denison                 | Pr., 1915-S  | S, O  | 910  |                                     |
| Cowden                       | 1900-S   | O   | 75   |                                     | Estherville             | 1897-S   | S   | 1,578  |                                     |
| Creston                      | 1904-O   | O   | 50   |                                     | Fort Dodge              | Pr., 1916-W  | W   | 1,100  | Pr. S.                              |
| Decatur                      | 1883-S   | S   | 720  | St. L.                              | Glidden                 | 1912-S   | S   | 300  |                                     |
| Fairfield                    | Pr., 1898-S  | S   | 970  |                                     | Greenfield              | 1894-S   | O   | 700  |                                     |
| Farmer City                  | 1893-S   | S   | 310  |                                     | Harlan                  | 1891-S   | O   | 1,500  |                                     |
| Flora                        | Pr., 1900-S  | S   | 800  |                                     | Harper's Ferry          | 1920-G   | G   | 25   |                                     |
| Freeburg                     | 1903-S   | S   | 225  |                                     | Hartley                 | 1909-G   | O   | 405  |                                     |
| Greensburg                   | 1899-S   | S   | 395  |                                     | Hawarden                | 1890-S   | S, S, T                                     | 1,450  |                                     |
| Highland                     | 1892-S   | S, S, T                                     | 1,445  | G. P.                               | Independence            | Pr., 1886-S  | S, S, T                                     | 710  | G. P.                               |
| Hinsdale                     | 1895-S   | S, S, T                                     | 3,350  |                                     | Indianola               | 1890-S   | O   | 1,380  |                                     |
| Jacksonville                 | 1895-S   | S   | 480  | St. L.                              | Kimballton              | 1902-S   | S, O  | 365  |                                     |
| Marshall                     | Pr., 1905-S  | S   | 350  | Pr. S.                              | Lake Mills              | 1912-O   | O   | 90   | C                                   |
| Mascoutah                    | Pr., 1912-S  | S   | 540  |                                     | Larchwood               | 1915-O   | O   | 90   |                                     |
| Mason City                   | 1906-S   | S   | 1,115  | St. L.                              | Lennox                  | 1912-O   | O   | 500  |                                     |
| McLeansboro                  | 1896-S   | S   | 645  |                                     | Manila                  | 1915-O   | O   | 490  |                                     |
| Metropolis                   | 1892-S   | S, S, T                                     | 750  | G. P.                               | Mapleton                | 1924-O   | O   | 100  |                                     |
| Newton                       | 1894-S   | S, O  | 125  |                                     | Maquoketa               | 1910-O   | O   | 1,115  |                                     |
| Oquawka                      | 1908-S   | G, O  | 50   | Pr. S.                              | Mt. Pleasant            | Pr., 1898-S  | S, S, T                                     | 1,340  |                                     |
| Patoka                       | 1910-G   | G   | 1,900  |                                     | Muscatine               | Pr., 1915-S, T                                       | S, T  | 6,125  |                                     |
| Peru                         | 1887-S   | S, O  | 2,350  |                                     | Necola                  | 1900-S   | O   | 390  |                                     |
| Princeton                    | Pr., 1897-S  | O   | 700  |                                     | New Hampton             | Pr., 1903-S  | S   | 1,300  |                                     |
| Rantoul                      | 1896-S   | O   | 390  |                                     | New London              | 1900-S   | S   | 595  |                                     |
| Red Bud                      | Pr., 1905-S  | O   | 1,815  |                                     | Onawa                   | 1894-S   | S   | 1,000  |                                     |
| Rochelle                     | 1893-S   | S   | 800  | Pr. S.                              | Orange City             | 1924-O   | O   | 580  |                                     |
| Salem                        | 1899-S   | S, T  | 35,000   |                                     | Ottumwa                 | 1913-W   | W   | 875  | St. L.                              |
| Springfield                  | Pr., 1899-S  | O   | 240  | G. P.                               | Paullina                | 1910-O   | O   | 180  | G. P.                               |
| Stonington                   | 1908-S   | O   | 780  |                                     | Pella                   | Pr., 1912-S  | S   | 700  |                                     |
| Sullivan                     | 1903-S   | O   | 8  |                                     | Renwick                 | 1922-O   | O   | 115  |                                     |
| Walshville                   | 1918-G   | G   | 760  |                                     | Rock Rapids             | 1897-S   | S   | 830  |                                     |
| Waterloo                     | Pr., 1901-S  | O   | 8,370  |                                     | Seymour                 | 1890-S   | S   | 415  |                                     |
| Winnetka                     | 1900-S   | S, S, T                                     | 2,700  |                                     | Sibley                  | 1914-S   | S   | 1,100  |                                     |
| Woodstock                    | 1898-S   | S   | 123,832  |                                     | Spencer                 | Pr., 1891-S  | S   | 1,700  |                                     |
| Total                        |  |   |  |                                     | State Center            | 1902-S   | S, O  | 480  |                                     |
| <i>Indiana</i>               |  |   |  |                                     | Story City              | Pr., 1901-S  | O   | 760  |                                     |
| Albion                       | 1895-S   | S   | 345  |                                     | Strawberry Pt.          | 1910-G   | G   | 300  | G. P.                               |
| Anderson                     | 1893-S   | S, T  | 12,000   |                                     | Stuart                  | 1890-S   | O   | 300  |                                     |
| Bluffton                     | 1888-S   | S, T  | 4,020  |                                     | Tipton                  | 1916-S   | S   | 500  | G. P.                               |
| Columbia City                | Pr., 1898-S  | S, T  | 3,010  |                                     | Truesdell               | Pr., 1910-S  | S   | 1,520  |                                     |
| Crawfordsville <sup>12</sup> | 1891-S   | S, T  | 10,724   |                                     | Vinton                  | Pr., 1896-S  | S, O  | 270  |                                     |
| Decatur                      | 1897-S   | S, T  | 6,000  |                                     | Walnut                  | 1904-S   | O   | 640  | G. P.                               |
| Edinburg                     | 1897-S   | S, T  | 150  | Pr. S.                              | Waverly                 | 1904-S, W  | W   | 750  |                                     |
| Fort Wayne                   | 1907-S, T  | S, T  | 10,200   | Pr. S.                              | Webster City            | 1890-S   | S   | 245  | G. P.                               |
| Frankfort <sup>13</sup>      | 1900-S, T  | S, T  | 9,700  |                                     | West Bend               | 1914-S   | O   | 180  |                                     |
| Garrett                      | Pr., 1896-S  | S, T  | 1,370  |                                     | West Liberty            | 1896-S   | O   | 195  |                                     |
| Greenfield                   | Pr., 1893-S  | S   | 1,000  | Pr. S.                              | Whitemore               | 1910-S   | O   | 215  |                                     |
| Huntingburg                  | Pr., 1914-S  | S   | 1,138  | G. P., St. L.                       | Wilbur                  | 1915-O   | O   | 215  |                                     |
| Huntington                   | 1888-S   | S, T  | 350  |                                     | Wilton Junction         | 1890-S   | S   | 310  |                                     |
| Jasper                       | Pr., 1904-S  | S, T  | 2,350  |                                     | Winterset               | 1889-S   | S   | 600  |                                     |
| Kendallville                 | Pr., 1893-S  | S, T  | 2,925  |                                     | Total                   |  |   | 51,992   |                                     |
| Logansport                   | Pr., 1896-S  | S   | 14,388   | G. P., St. L.                       | <i>Kansas</i>           |  |   |  |                                     |
| Martinsville                 | 1904-S   | S   | 150  | St. L.                              | Alton                   | 1915-O   | O   | 90   |                                     |
| New Castle                   | 1893-S   | S   | 450  |                                     | Anthony                 | Pr., 1910-S  | S, S, T                                     | 645  | Pr. S.                              |
|                              |  |   |  |                                     | Ashland                 | 1910-G   | O   | 350  |                                     |
|                              |  |   |  |                                     | Atchison                | 1915-O   | O   | 225  |                                     |
|                              |  |   |  |                                     | Augusta                 | 1911-G   | S, O  | 1,044  |                                     |

| Town                      | Date of Origin and Type of Prime Mover at Origin (1) | Type of Prime Mover as of Dec. 31, 1930 (2) | Total Horse-power Capacity as of Dec. 31, 1930 (3) | Description as of Dec. 31, 1930 (4) | Town                      | Date of Origin and Type of Prime Mover at Origin (1) | Type of Prime Mover as of Dec. 31, 1930 (2) | Total Horse-power Capacity as of Dec. 31, 1930 (3) | Description as of Dec. 31, 1930 (4) |
|---------------------------|--|---|--|-------------------------------------|---------------------------|--|---|--|-------------------------------------|
| <b>Kansas (cont'd)</b>    |  |   |  |                                     | <b>Louisiana (cont'd)</b> |  |   |  |                                     |
| Baldwin City              | 1906-G   | O   | 348  |                                     | Jonesville                | 1926-O   | O   | 270  |                                     |
| Belleville                | 1907-S   | O   | 1,220  |                                     | Kaplan                    | 1913-O   | O   | 235  |                                     |
| Beloit                    | 1908-S   | O   | 1,300  |                                     | Kenner                    | 1923-P <sup>20</sup>                                 | O   | 160  |                                     |
| Buffalo                   | Pr., 1918-O  | O   | 75   |                                     | LaFayette                 | 1894-S   | O   | 2,640  |                                     |
| Burlingame                | 1904-S   | O   | 300  | G. P.                               | Lake Providence           | 1908-S   | O   | 1,060  |                                     |
| Chanute                   | 1902-S   | S. T.                                       | 4,020  |                                     | Melville                  | 1919-O   | O   | 65   |                                     |
| Chetopa                   | 1906-S   | O   | 600  |                                     | Minden                    | Pr., 1924-O  | O   | 960  |                                     |
| Clay Centre               | 1906-S   | S. T.                                       | 2,000  |                                     | Monroe                    | Pr., 1903-S  | S. T.                                       | 10,180   |                                     |
| Coffeyville               | 1898-S   | S. T.                                       | 8,700  | Pr. S.                              | Natchitoches              | Pr., 1901-S  | O   | 820  |                                     |
| Colby                     | 1910-S   | S. O  | 1,100  |                                     | New Roads                 | 1913-S   | O   | 312  |                                     |
| Dighton                   | 1916-S   | O   | 280  |                                     | Opelousas                 | 1898-S   | O   | 1,100  |                                     |
| Ellinwood                 | 1906-S   | O   | 650  |                                     | Palqueline                | Pr., 1923-S  | O   | 1,310  |                                     |
| Ellis                     | 1909-S   | O   | 1,000  |                                     | Rayne                     | 1900-S   | O   | 900  |                                     |
| Erie                      | 1910-S   | O   | 350  |                                     | Rayville                  | 1922-O   | O   | 730  |                                     |
| Fredonia                  | 1924-O   | O   | 1,200  |                                     | Ruston                    | 1901-S   | O   | 1,300  |                                     |
| Garnett                   | Pr., 1913-S  | S. O  | 900  |                                     | Thibodaux                 | 1899-S   | O   | 1,090  |                                     |
| Girard                    | Pr., 1903-S  | O   | 1,260  |                                     | Welsh                     | 1913-O   | O   | 420  |                                     |
| Greensburg <sup>16</sup>  | 1911-G   | O   | 640  |                                     | White Castle              | 1919-G   | O   | 150  |                                     |
| Hepler                    | 1921-O   | O   | 50   |                                     | Total                     |  |   | 36,355   |                                     |
| Herington                 | 1907-S   | O   | 1,700  |                                     |                           |  |   |  |                                     |
| Holton                    | Pr., 1907-S  | S. O  | 800  |                                     | <b>Maine</b>              |  |   |  |                                     |
| Horton                    | Pr., 1910-S  | O   | 1,552  |                                     | Bangor                    | 1888-S   | W   | 700  | G. P., St. L.                       |
| Hugoton                   | 1920-O   | O   | 760  |                                     | Kennebunk <sup>21</sup>   | 1900-S   | W   | 200  | G. P.                               |
| Iola                      | 1900-S   | S. S. T.                                    | 4,100  |                                     | Lewiston                  | 1887-S   | W   | 400  | St. L.                              |
| Jetmore                   | 1914-O   | O   | 345  |                                     | Lubec                     | 1922-W   | W   | 210  |                                     |
| Kanopolis                 | 1913-S   | S   | 50   | Pr. S.                              | Princeton                 | 1915-O   | O   | 100  |                                     |
| Kansas City <sup>17</sup> | 1912-S, T.   | S. T.                                       | 38,570   |                                     | Total                     |  |   | 1,610  |                                     |
| Kingman                   | Pr., 1913-S  | S. O  | 1,140  |                                     | <b>Maryland</b>           |  |   |  |                                     |
| La Crosse                 | 1907-S   | O   | 710  |                                     | Berlin                    | 1916-S   | G. O  | 585  |                                     |
| Larned                    | Pr., 1916-S  | S. S. T.                                    | 3,125  |                                     | Centerville               | Pr., 1913-S  | S. S. T.                                    | 500  |                                     |
| Lincoln                   | 1906-G   | O   | 240  |                                     | Easton                    | Pr., 1915-S  | O   | 1,125  |                                     |
| Lindsborg                 | 1909-S   | O   | 780  |                                     | Hagerstown                | Pr., 1901-S  | S. T.                                       | 11,500   | G. P.                               |
| Marion                    | 1906-O   | O   | 1,385  |                                     | Thurmont                  | 1911-W   | O   | 195  |                                     |
| McPherson                 | Pr., 1909-S  | S. T.                                       | 5,600  |                                     | Total                     |  |   | 14,305   |                                     |
| Meade                     | Pr., 1921-O  | O   | 725  |                                     | <b>Massachusetts</b>      |  |   |  |                                     |
| Minneapolis               | Pr., 1920-O  | O   | 710  |                                     | Boston                    | 1918-W   | W   | 7,010  | St. L.                              |
| Montezuma                 | 1910-P <sup>18</sup>                                 | O   | 180  |                                     | Braintree (East)          | 1892-S   | S. T.                                       | 3,500  | G. P.                               |
| Moran                     | 1918-O   | O   | 950  |                                     | Holyoke                   | Pr., 1902-S, W                                       | S. T., W                                    | 18,066   | G. P.                               |
| Mulvane                   | Pr., 1920-G  | O, G  | 1,100  |                                     | Hudson                    | Pr., 1897-S  | O   | 2,500  | G. P.                               |
| Neodesha                  | 1902-S   | O   | 1,100  |                                     | Ipswich                   | 1903-S   | O   | 1,350  | G. P.                               |
| Norton                    | Pr., 1913-O  | O   | 1,180  |                                     | Marblehead                | 1894-S   | S. S. T.                                    | 865  | G. P.                               |
| Oakley                    | 1910-O   | O   | 500  |                                     | Middleboro                | Pr., 1893-S, S. T., G                                | S. S. T.                                    | 450  | G. P.                               |
| Oberlin                   | 1906-S   | O   | 700  |                                     | Peabody                   | 1892-S   | S. S. T.                                    | 3,066  | G. P.                               |
| Oaage City                | Pr., 1898-S  | O   | 1,465  |                                     | Reading <sup>19</sup>     | 1894-S   | S. S. T.                                    | 2,163  | G. P.                               |
| Oswatimie                 | Pr., 1912-O  | S, S. T., O                                 | 2,250  |                                     | Taunton <sup>22</sup>     | Pr., 1897-S  | S. S. T.                                    | 10,875   | G. P.                               |
| Osborne                   | Pr., 1911-S  | O   | 2,400  |                                     | Total                     |  |   | 50,764   |                                     |
| Ottawa                    | Pr., 1906-S  | S. T.                                       | 6,840  |                                     | <b>Michigan</b>           |  |   |  |                                     |
| Pratt                     | 1917-S   | S   | 1,600  |                                     | Bellaire                  | 1900-W   | W   | 165  |                                     |
| Protection                | Pr., 1914-G  | O   | 685  |                                     | Blissfield                | 1900-S   | S   | 640  |                                     |
| Russell                   | 1910-O   | O   | 850  |                                     | Charlevoix                | Pr., 1896-S  | S, W  | 1,100  |                                     |
| Sabetha                   | 1901-S   | O   | 1,560  |                                     | Clinton                   | 1892-S   | S   | 700  |                                     |
| St. Francis               | 1914-O   | O   | 660  |                                     | Coldwater                 | 1891-S   | S. T.                                       | 5,250  |                                     |
| St. John                  | 1920-S   | O   | 360  |                                     | Crystal Falls             | 1898-W   | W   | 800  |                                     |
| Sharon Springs            | 1915-O   | O   | 420  |                                     | Detroit                   | Pr., 1891-S  | S. T.                                       | 107,000  | G. P., St. L.                       |
| Stafford                  | 1911-S   | O   | 590  |                                     | Downagiac                 | 1882-S   | S, S. T., O                                 | 650  | St. L.                              |
| Sterling                  | Pr., 1914-S  | S, O  | 700  | G. P.                               | Grand Haven               | 1899-S   | O, W  | 6,400  |                                     |
| Stockton                  | 1908-O   | O   | 780  |                                     | Grand Marais              | 1926-O   | O   | 120  |                                     |
| Toronto                   | 1917-O   | O   | 85   | Pr. S.                              | Grand Rapids              | 1897-S   | S. T.                                       | 4,150  | St. L.                              |
| Wamego                    | 1901-S   | O   | 950  | G. P.                               | Harrison                  | Pr., 1911-O  | O   | 225  |                                     |
| Wellington                | Pr., 1902-S  | S. T.                                       | 2,680  |                                     | Hart                      | 1896-S <sup>24</sup>                                 | W   | 480  | C                                   |
| Wilson                    | 1910-O   | O   | 640  |                                     | Hillsdale                 | 1893-S   | S. T.                                       | 4,225  |                                     |
| Winfield                  | 1904-S   | S. T.                                       | 2,250  |                                     | Holland                   | 1886-S   | S. T.                                       | 14,894   |                                     |
| Total                     |  |   | 121,731  |                                     | Kalamazoo                 | 1891-S   | S. T.                                       | 3,500  | Pr. S.                              |
| <b>Kentucky</b>           |  |   |  |                                     | Lansing                   | 1892-S   | S. T., W                                    | 80,000   |                                     |
| Corbin                    | Pr., 1917-S  | S, S. T.                                    | 1,735  | G. P.                               | L'Anse                    | 1908-W   | W, O  | 337  |                                     |
| Falmouth                  | 1915-S   | O   | 90   |                                     | Lowell                    | Pr., 1896-W  | W, O  | 900  |                                     |
| Henderson                 | 1896-S   | S, S. T.                                    | 4,970  |                                     | Manton                    | 1884-S   | O, W  | 175  |                                     |
| Nicholasville             | 1902-S   | S   | 335  |                                     | Marquette                 | 1889-W   | W, O  | 9,900  |                                     |
| Owensboro                 | Pr., 1900-S  | S, S. T.                                    | 5,230  |                                     | Marshall                  | 1891-W   | O, W  | 1,710  | G. P.                               |
| Total                     |  |   | 12,340   |                                     | Negaunee                  | 1898-S   | S. T.                                       | 603  | G. P.                               |
| <b>Louisiana</b>          |  |   |  |                                     | Newberry                  | 1892-S   | O   | 330  |                                     |
| Abbeville                 | Pr., 1907-S  | O   | 525  |                                     | Niles                     | Pr., 1890-S, W                                       | W   | 975  | G. P.                               |
| Alexandria <sup>19</sup>  | 1891-S   | S. T.                                       | 9,000  |                                     | Paw Paw                   | Pr., 1891-W  | W   | 397  |                                     |
| Boyce                     | 1912-S   | O   | 100  |                                     | Potosky                   | Pr., 1898-W, S                                       | W   | 184  | G. P., Pr. S.                       |
| Franklin                  | Pr., 1898-S  | O   | 800  |                                     | Portland                  | 1896-W   | W, O  | 600  |                                     |
| Gueydan                   | Pr., 1919-O  | O   | 255  |                                     | St. Joseph                | Pr., 1901-G  | G   | 100  | St. L.                              |
| Homer                     | 1910-S   | G   | 415  |                                     |                           |  |   |  |                                     |
| Houma                     | 1909-S   | O   | 938  |                                     |                           |  |   |  |                                     |
| Jonesboro                 | 1910-O   | O   | 470  |                                     |                           |  |   |  |                                     |

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| Town                     | Date of Origin and Type of Prime Mover at Origin<br>(1) | Type of Prime Mover as of Dec. 31, 1930<br>(2) | Total Horse-power Capacity as of Dec. 31, 1930<br>(3) | Description as of Dec. 31, 1930<br>(4) | Town                            | Date of Origin and Type of Prime Mover at Origin<br>(1) | Type of Prime Mover as of Dec. 31, 1930<br>(2) | Total Horse-power Capacity as of Dec. 31, 1930<br>(3) | Description as of Dec. 31, 1930<br>(4) |
|--------------------------|---|--|---|--|---------------------------------|---|--|---|--|
| <b>Michigan (cont'd)</b> |   |  |   |  | <b>Mississippi (cont'd)</b>     |   |  |   |  |
| St. Louis.....           | Pr., 1901-S, W  | S. T., W, O                                    | 1,360   | -----                                  | Prentiss.....                   | 1921-O  | O  | 130   | -----                                  |
| Sebewaing.....           | Pr., 1911-O   | O  | 490   | -----                                  | Shaw.....                       | 1906-S  | O  | 610   | -----                                  |
| South Haven.....         | 1892-S  | S, S. T.                                       | 3,150   | G. P.                                  | Utica.....                      | 1920-O  | O  | 1,700   | -----                                  |
| Sturgis.....             | Pr., 1904-S   | O, W   | 1,928   | G. P.                                  | Water Valley.....               | Pr., 1898-S   | O  | 1,080   | -----                                  |
| Three Rivers.....        | 1919-W  | W  | 225   | St. L., G. P.                          | West Point.....                 | Pr., 1898-S   | S, O   | 950   | -----                                  |
| Traverse City.....       | 1913-W  | S. T., W                                       | 3,000   | -----                                  | Woodville.....                  | 1908-S  | O  | 280   | -----                                  |
| Union City.....          | Pr., 1895-S   | W  | 660   | -----                                  | Yasoo City.....                 | Pr., 1903-S   | S. T.  | 2,000   | -----                                  |
| White Cloud.....         | 1904-W  | W  | 96  | -----                                  |                                 |   |  |   |  |
| Wyandotte.....           | 1890-S  | S. T.  | 5,760   | -----                                  |                                 |   |  |   |  |
| Total.....               |   |  | 263,179   |  | Total.....                      |   |  | 28,325  |  |
| <b>Minnesota</b>         |   |  |   |  | <b>Missouri</b>                 |   |  |   |  |
| Adrian.....              | Pr., 1897-S   | S  | 260   | -----                                  | Albany.....                     | 1892-S  | O  | 800   | -----                                  |
| Aitkin.....              | 1895-S  | O  | 670   | -----                                  | Bethany.....                    | 1894-S  | O  | 1,360   | -----                                  |
| Alexandria.....          | Pr., 1890-S   | S, S. T.                                       | 1,925   | G. P.                                  | Butler.....                     | 1902-S  | O  | 1,160   | -----                                  |
| Baudette.....            | Pr., 1900-S   | S. T.  | 6,700   | -----                                  | Cameron.....                    | Pr., 1897-S   | S, O   | 2,000   | -----                                  |
| Baudette.....            | 1907-G  | S  | 240   | -----                                  | Campbell.....                   | 1930-O  | O  | 200   | C                                      |
| Benson.....              | Pr., 1902-S   | S  | 800   | -----                                  | Canton.....                     | Pr., 1900-S   | O  | 370   | -----                                  |
| Bloomington.....         | 1930-O  | C  | 200   | -----                                  | Carthage.....                   | 1899-O  | O  | 2,450   | -----                                  |
| Blue Earth.....          | 1895-S  | S  | 1,105   | -----                                  | Chillicothe <sup>20</sup> ..... | 1911-S  | S, S. T.                                       | 3,625   | -----                                  |
| Boy River.....           | 1931-S  | S  | 1,075   | -----                                  | Columbia.....                   | Pr., 1904-S   | S. T.  | 9,430   | -----                                  |
| Buhl.....                | 1903-S  | S  | 1,300   | -----                                  | Fayette.....                    | Pr., 1898-S   | S, O   | 820   | -----                                  |
| Detroit Lakes.....       | Pr., 1903-S   | S  | 3,500   | Pr. S.                                 | Fulton <sup>21</sup> .....      | 1895-S  | S. S. T.                                       | 2,700   | -----                                  |
| Fairmont.....            | 1892-S <sup>22</sup>                                    | S  | 235   | Pr. L <sup>22</sup>                    | Galt.....                       | 1930-O  | O  | 115   | -----                                  |
| Fond du Lac.....         | 1910-O  | S  | 895   | -----                                  | Gilman City.....                | 1919-O  | O  | 125   | -----                                  |
| Goodrich.....            | 1891-S, W   | O, W   | 6,300   | G. P.                                  | Hannibal.....                   | 1886-S  | S, S. T.                                       | 13,000  | -----                                  |
| Granite Falls.....       | 1891-S  | S. T.  | 1,075   | -----                                  | Harrisonville.....              | 1896-S  | O  | 720   | -----                                  |
| Hibbing.....             | 1900-S  | S, W   | 1,235   | G. P.                                  | Hartville.....                  | 1925-W  | W  | 32  | G. P.                                  |
| Jackson.....             | 1906-S  | S, T.  | 100   | G. P.                                  | Hayti.....                      | 1931-S  | O  | 2,060   | -----                                  |
| Kellier.....             | 1899-S  | S, O, W  | 1,260   | -----                                  | Higginsville.....               | 1894-S  | O  | 7,300   | -----                                  |
| Lake City.....           | 1908-W  | W, O   | 990   | -----                                  | Independence.....               | Pr., 1902-S   | S, S. T.                                       | 540   | -----                                  |
| Lakefield.....           | 1921-O  | S  | 1,310   | -----                                  | Jackson.....                    | 1908-S  | O  | 320   | -----                                  |
| Littlefork.....          | Pr., 1927-O   | O  | 60  | -----                                  | Kahoka.....                     | Pr., 1903-S   | O  | 600   | -----                                  |
| Luverne.....             | 1891-S  | S  | 785   | -----                                  | Lamar.....                      | Pr., 1912-S   | O  | 1,060   | -----                                  |
| Madison.....             | 1894-S  | S  | 950   | -----                                  | Lebanon.....                    | Pr., 1904-S   | S  | 1,600   | Pr. S.                                 |
| Marshall.....            | Pr., 1894-S   | W  | 75  | -----                                  | Liberal.....                    | 1931-S  | S  | 400   | -----                                  |
| Mazeppa.....             | 1910-W  | S. T.  | 505   | -----                                  | Macon.....                      | 1891-S  | O  | 1,170   | Pr. S.                                 |
| Melrose.....             | 1894-S  | S, T.  | 1,257   | -----                                  | Malden.....                     | 1896-S  | S, O   | 3,850   | G. P.                                  |
| Moorhead.....            | 1902-S  | O  | 475   | -----                                  | Marceline.....                  | 1910-S, G   | S, S. T.                                       | 390   | -----                                  |
| New Prague.....          | Pr., 1902-S   | S  | 4,165   | -----                                  | Marshall.....                   | 1919-S  | O  | 540   | -----                                  |
| New Ulm.....             | Pr., 1902-S   | S, S. T., W                                    | 15,050  | -----                                  | Memphis.....                    | 1918-O  | S  | 490   | -----                                  |
| Owatonna.....            | Pr., 1925-S, T.   | S, S. T., W                                    | 1,600   | -----                                  | Milan.....                      | 1898-S  | S, O   | 330   | G. P.                                  |
| Rochester.....           | 1913-S  | I  | 20  | St. L.                                 | Monroe City.....                | Pr., 1902-S   | O  | 675   | -----                                  |
| Roseau.....              | 1912-I  | S  | 1,400   | -----                                  | New Madrid.....                 | Pr., 1915-O   | O  | 520   | G. P.                                  |
| Saint Vincent.....       | 1931-I  | S  | 1,275   | -----                                  | Palmyra.....                    | Pr., 1910-S   | O  | 3,000   | -----                                  |
| Section Thirty.....      | 1896-S  | S, O, W  | 1,225   | -----                                  | Paris.....                      | 1901-S  | S, S. T., O                                    | 775   | -----                                  |

| Town                     | Date of Origin and Type of Prime Mover at Origin<br>(1) | Type of Prime Mover as of Dec. 31, 1930<br>(2) | Total Horse-power Capacity as of Dec. 31, 1930<br>(3) | Description as of Dec. 31, 1930<br>(4) | Town                  | Date of Origin and Type of Prime Mover at Origin<br>(1) | Type of Prime Mover as of Dec. 31, 1930<br>(2) | Total Horse-power Capacity as of Dec. 31, 1930<br>(3) | Description as of Dec. 31, 1930<br>(4) |
|--------------------------|---|--|---|--|-----------------------|---|--|---|--|
| <b>Nebraska (cont'd)</b> |   |  |   |  | <b>New York</b>       |   |  |   |  |
| Curtis                   | 1913-O  | O  | 460   |  | Arcade                | 1909-S  | S  | 310   | G. P.                                  |
| David City               | Pr., 1914-S, O  | O  | 400   |  | Bath                  | 1915-S  | S  | 1,535   |  |
| Deatur                   | 1914-G  | O  | 40  |  | Boonville             | Pr., 1903-W   | W  | 450   | G. P.                                  |
| De Witt                  | Pr., 1915-O   | O  | 213   |  | Dunkirk               | 1888-S  | S. T.  | 1,340   | G. P.                                  |
| Emerson                  | Pr., 1920-O   | O  | 237   |  | Fresport              | 1892-S  | S. O   | 5,915   |  |
| Fairbury                 | Pr., 1910-S, S. T.                                      | S. T.  | 7,300   |  | Gouverneur            | 1927-W  | W  | 300   | St. L.                                 |
| Falls City               | 1894-S  | O  | 2,440   |  | Greene                | Pr., 1904-S   | S  | 425   |  |
| Farnam                   | 1912-O  | O  | 135   |  | Greenport             | Pr., 1890-S   | S. O   | 2,150   |  |
| Franklin                 | 1910-G  | O  | 440   |  | Herkimer              | 1891-S  | S. S. T.                                       | 2,310   |  |
| Fremont                  | 1895-S  | S. T.  | 6,280   |  | Jamestown             | 1891-S  | S. T.  | 13,400  |  |
| Grand Island             | 1906-S  | S. T.  | 10,720  |  | Lake Placid           | Pr., 1906-S, W  | W  | 485   | G. P.                                  |
| Harrison                 | 1916-O  | O  | 233   |  | Penn Yan              | 1904-S  | S. T.  | 2,400   | Pr. S.                                 |
| Hastings                 | 1901-S  | S. T.  | 8,675   |  | Philadelphia          | 1907 W  | W  | 420   |  |
| Holbrook                 | 1916-O  | O  | 200   |  | Pottsdam              | 1907-W  | W  | 225   | G. P., St. L.                          |
| Holdrege                 | 1919-S  | S  | 950   |  | Rockville Center      | 1898-S  | O  | 4,590   | G. P.                                  |
| Hyannis                  | 1921-O  | O  | 130   |  | Springville           | 1895-W  | W  | 700   | G. P.                                  |
| Imperial                 | 1917-W  | W, O   | 270   |  | Theresa               | 1907-W  | W  | 170   |  |
| Kimball                  | Pr., 1918-O   | O  | 1,265   |  | Watertown             | 1926-W  | W  | 7,500   | St. L.                                 |
| Laurel                   | 1916-O  | O  | 590   |  | Watkins Glen          |   |  |   |  |
| Leigh                    | 1915-G  | O  | 200   |  | (Village)             | Pr., 1908-S   | S  | 450   |  |
| Lincoln                  | 1905-S  | S, S. T.                                       | 8,990   | C                                      | Wellsville            | 1911-S, G   | S. T.  | 1,468   | G. P.                                  |
| Lodgepole                | 1911-G  | G, O   | 170   |  | Total                 |   |  | 46,343  |  |
| Lyons                    | 1914-O  | O  | 430   |  | <b>North Carolina</b> |   |  |   |  |
| Madison                  | 1901-S  | O  | 900   |  | Bellhaven             | Pr., 1918-O   | O  | 300   |  |
| Mason City               | 1911-O  | O  | 75  |  | Benson                | 1922-P <sup>4</sup>                                     | O  | 300   | G. P.                                  |
| Meade                    | 1916-O  | O  | 50  | G. P.                                  | Enfield               | 1913-S  | S  | 525   |  |
| Minden                   | Pr., 1915-S   | S, O   | 535   |  | Farmville             | 1914-S  | S  | 750   |  |
| Mullen                   | 1917-O  | O  | 113   |  | Greenville            | 1905-S  | S. T.  | 7,130   |  |
| Naper                    | 1920-O  | O  | 25  |  | Highlands             | 1927-W  | W  | 300   |  |
| Ord                      | Pr., 1916-O   | S  | 830   |  | Kinston               | 1897-S  | S, S. T.                                       | 7,165   |  |
| Oxford                   | 1911-G  | O  | 380   |  | Louisberg             | 1908-S  | O  | 660   |  |
| Pender                   | Pr., 1910-S   | O  | 250   |  | Montreat              | 1913-W  | W  | 75  | G. P.                                  |
| Peru                     | Pr., 1921-S   | S  | 490   |  | New Bern              | Pr., 1900-S   | S. T.  | 6,485   |  |
| Plain View               | 1911-S, G   | S, O   | 400   |  | Oak City              | 1931-O  |  |   |  |
| Potter                   | Pr., 1914-S   | O  | 215   |  | Pine Tops             | 1931-   |  |   |  |
| Randolph                 | 1907-G  | G  | 85  |  | Red Springs           | Pr., 1921-O   | O  | 200   |  |
| Red Cloud                | 1907-S  | O  | 540   |  | Rocky Mount           | 1900-S  | S. T.  | 12,600  |  |
| Sargent                  | 1918-G  | O  | 420   |  | Southport             | 1911-O  | S. T. O  | 175   |  |
| Schuyler                 | 1892-S  | S  | 1,020   |  | Tarboro               | 1898-S  | S. T. O  | 2,700   | G. P.                                  |
| Stratton                 | 1911-G  | O  | 315   |  | Washington            | 1904-S  | S. T.  | 4,575   |  |
| Stuart                   | 1924-O  | O  | 210   |  | Wilson                | 1903-S  | S, S. T., W                                    | 6,790   |  |
| Sutton                   | Pr., 1917-S   | S  | 500   |  | Windsor               | Pr., 1920-S   | O  | 480   |  |
| Syracuse                 | 1917-O  | O  | 305   |  | Total                 |   |  | 51,600  |  |
| Tecumseh                 | 1894-S  | O  | 1,200   |  | <b>North Dakota</b>   |   |  |   |  |
| Trenton                  | 1916-G  | O  | 377   |  | Cavalier              | 1927-O  | O  | 180   |  |
| Upland                   | 1918-O  | O  | 145   |  | Grafton               | Pr., 1898-S   | S, O   | 890   |  |
| Wahoo                    | Pr., 1908-S   | S, S. T.                                       | 1,900   |  | Hope                  | Pr., 1920-O   | O  | 140   |  |
| Wakefield                | Pr., 1925-O   | O  | 390   |  | Inkster               | Pr., 1921-G   | O  | 40  |  |
| Wayne                    | 1892-S  | S, O   | 1,580   |  | Lakota                | 1926-G  | G  | 40  |  |
| West Point               | Pr., 1910-O   | O  | 1,235   | G. P.                                  | Ludden                | Pr., 1926-G   | G  | 40  |  |
| Wilber                   | 1900-S  | S  | 250   | G. P.                                  | Maddock               | 1918-G  | O  | 205   |  |
| Winfield                 | 1916-O  | O  | 320   |  | McHenry               | 1917-O  | O  | 40  |  |
| Wiener                   | 1925-G  | O  | 810   |  | Nekoma                | 1919-O  | O  |   |  |
| Wood Lake                | Pr., 1922-O   | O  | 65  |  | New England           | Pr., 1923-O   | O  | 330   |  |
| Total                    |   |  | 79,806  |  | Northwood             | 1912-G  | O  | 150   |  |
| <b>Nevada</b>            |   |  |   |  | Park River            | 1900-S  | O  | 330   |  |
| Caliente                 | 1924-S  | S, O   | 213   | G. P.                                  | Pekin                 | 1910-O  | O  |   |  |
| Carlisle                 | 1923-G  | O  | 240   |  | Sharon                | 1918-O  | O  |   |  |
| Total                    |   |  | 453   |  | Valley City           | 1898-S  | S, S. T.                                       | 4,500   |  |
| <b>New Hampshire</b>     |   |  |   |  | Total                 |   |  | 6,885   |  |
| Wolfboro                 | 1900-S  | O  | 720   |  | <b>Ohio</b>           |   |  |   |  |
| Woodsville               | Pr., 1922-S, W  | W, O   | 465   | G. P.                                  | Arcanum               | 1904-S  | S  | 378   |  |
| Total                    |   |  | 1,185   |  | Arlington             | 1900-S  | O  | 350   |  |
| <b>New Jersey</b>        |   |  |   |  | Bainbridge            | 1890-S  | S  | 150   |  |
| Butler                   | Pr., 1915-O   | O  | 450   | G. P.                                  | Bellefontaine         | 1890-S  | S. T.  | 3,937   |  |
| Pemberton                | 1923-O  | O  | 240   |  | Beres                 | Pr., 1900-S   | S, T., G                                       | 1,440   |  |
| Perth Amboy              | 1918-O  | O  | 720   | St. L.                                 | Bethel                | 1904-P  | O  | 300   |  |
| South River              | Pr., 1912-G   | O  | 2,370   |  | Bluffton              | 1897-S  | S  | 900   |  |
| Vineland                 | 1900-S  | S. T.  | 4,750   |  | Bryan                 | Pr., 1898-S   | O  | 1,270   | G. P.                                  |
| Total                    |   |  | 8,530   |  | Caldwell              | 1898-S  | G  | 150   |  |
| <b>New Mexico</b>        |   |  |   |  | Celina                | 1901-S  | S  | 760   |  |
| Clayton                  | Pr., 1911-O   | O  | 610   |  | Cleveland             | 1906-S, S. T.   | S. T.  | 67,000  | C                                      |
| Raton                    | 1920-S  | S. T.  | 2,540   |  | Clyde                 | 1893-S  | S  | 775   |  |
| Total                    |   |  | 3,150   |  | Columbus              | Pr., 1903-S, T.   | S. T.  | 26,800  | G                                      |
|                          |   |  |   |  | Columbus Grove        | Pr., 1903-S   | S, S. T.                                       | 605   |  |
|                          |   |  |   |  | Deahler               | 1923-O  | O  | 480   | C                                      |
|                          |   |  |   |  | Dover                 | Pr., 1910-G   | S, S. T.                                       | 3,650   |  |



## MUNICIPALLY OWNED GENERATING PLANTS

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| Town                    | Date of Origin and Type of Prime Mover at Origin (1) | Type of Prime Mover as of Dec. 31, 1930 (2) | Total Horse-power Capacity as of Dec. 31, 1930 (3) | Description as of Dec. 31, 1930 (4) | Town                     | Date of Origin and Type of Prime Mover at Origin (1) | Type of Prime Mover as of Dec. 31, 1930 (2) | Total Horse-power Capacity as of Dec. 31, 1930 (3) | Description as of Dec. 31, 1930 (4) |
|-------------------------|--|---|--|-------------------------------------|--------------------------|--|---|--|-------------------------------------|
| <b>Ohio (cont'd)</b>    |  |   |  |                                     | <b>Oregon (cont'd)</b>   |  |   |  |                                     |
| East Palestine          | 1896-S   | S, S, T.                                    | 2,350  |                                     | Hood River               | 1931-W   |   |  | St. L.                              |
| Galion                  | 1889-S   | S, S, T.                                    | 4,200  |                                     | McMinnville              | 1889-S   | S, W, O                                     | 2,755  |                                     |
| Greenfield              | 1893-S   | S   | 750  |                                     | Total                    |  |   | 29,024   |                                     |
| Hamilton                | Pr., 1894-S  | S, T.                                       | 18,000   | G. P.                               | <b>Pennsylvania</b>      |  |   |  |                                     |
| Lebanon                 | Pr., 1898-S  | S   | 650  |                                     | Aspinwall                | 1893-S   | S, T.                                       | 1,340  |                                     |
| Martins Ferry           | 1895-S   | S, T.                                       | 3,000  | G. P.                               | Chambersburg             | 1889-S, T.   | S, T.                                       | 5,500  |                                     |
| Miamisburg              | 1890-S   | S, S, T.                                    | 3,350  |                                     | Danville                 | 1896-S   | S   | 415  | St. L.                              |
| Minerva                 | Pr., 1889-S  | S, S, T.                                    | 500  |                                     | Duncannon                | 1897-S   | S, O  | 350  |                                     |
| Montpelier              | 1895-S   | S, S, T.                                    | 2,100  |                                     | Ephrata                  | Pr., 1896-S  | S, S, T.                                    | 1,025  |                                     |
| Napoleon                | 1895-S   | S, T.                                       | 2,425  |                                     | Etna                     | 1904-S   | S   | 530  |                                     |
| Nelsonville             | 1907-S   | S, T.                                       | 500  | G. P.                               | Ford City                | 1898-S   | G   | 900  | G. P.                               |
| Newark                  | Pr., 1894-S  | S, T.                                       | 670  | St. L.                              | Grove City               | 1908-G   | O   | 2,780  |                                     |
| Norwalk                 | Pr., 1915-G  | S, T.                                       | 5,620  |                                     | Lansdale                 | 1898-S   | S, S, T.                                    | 2,200  |                                     |
| Orrville                | 1916-S   | S, S, T.                                    | 2,018  |                                     | Olyphant                 | 1894-S   | S, S, T.                                    | 1,900  |                                     |
| Painesville             | 1886-S   | S, T.                                       | 7,370  |                                     | Peckville                | 1894-S   | S   | 1,350  |                                     |
| Paulding                | Pr., 1901-S  | S   | 750  |                                     | Perkasie                 | 1899-S, T.   | S, T.                                       | 1,920  |                                     |
| Plain City              | 1894-S   | O   | 540  |                                     | Pittsboro                | 1903-G   | G, O  | 1,110  |                                     |
| Reading                 | 1893-S   | S   | 1,000  |                                     | Quakertown               | 1892-S   | S, T.                                       | 1,340  |                                     |
| Sabina                  | 1897-S   | S, T.                                       | 400  | Pr. S.                              | Schuylkill Haven         | Pr., 1892-S  | S   | 2,735  | G. P.                               |
| St. Bernard             | 1893-S   | S, T.                                       | 650  | G. P.                               | Sharpsburg               | 1889-S   | S, S, T.                                    | 3,200  | G. P.                               |
| St. Marys               | Pr., 1896-S  | S, S, T.                                    | 3,730  |                                     | Tarentum                 | Pr., 1893-S  | S, S, T.                                    | 3,200  |                                     |
| Shelby                  | 1892-S   | S   | 250  |                                     | Titusville               | 1889-S   | S   | 140  | St. L.                              |
| Spencerville            | 1900-S   | S   | 400  |                                     | Weatherly                | 1889-S   | S, S, T.                                    | 1,000  |                                     |
| Tippecanoe City         | 1896-S   | S, T.                                       | 8,700  | G. P.                               | Total                    |  |   | 31,795   |                                     |
| Troy                    | Pr., 1897-S  | S   | 700  |                                     | <b>Rhode Island</b>      |  |   |  |                                     |
| Versailles              | 1901-S   | S   | 700  |                                     | (None)                   |  |   |  |                                     |
| Waterville <sup>4</sup> | 1918-P   | O   | 540  | G. P.                               | <b>South Carolina</b>    |  |   |  |                                     |
| Wellington              | 1898-S   | S, T., G                                    | 1,450  |                                     | Abbeville                | Pr., 1905-S  | S, S, T., G                                 | 775  | G. P.                               |
| Wellston                | 1892-S   | S, S, T.                                    | 985  | G. P.                               | Bennettsville            | 1903-S   | S, O  | 905  | G. P.                               |
| Willard                 | 1898-S   | S, S, T.                                    | 1,325  |                                     | Total                    |  |   | 1,680  |                                     |
| Woodsfield              | 1899-S   | O   | 400  |                                     | <b>South Dakota</b>      |  |   |  |                                     |
| Total                   |  |   | 184,668  |                                     | Agar                     | 1931-  |   |  |                                     |
| <b>Oklahoma</b>         |  |   |  |                                     | Beresford                | 1921-O   | O   | 450  |                                     |
| Altus                   | 1909-S   | O   | 3,795  |                                     | Brookings                | Pr., 1901-S  | S   | 2,200  |                                     |
| Anadarko                | 1906-S   | O, W  | 1,168  |                                     | Bryant                   | 1911-O   | O   | 160  |                                     |
| Blackwell               | Pr., 1910-S  | S, T.                                       | 8,575  |                                     | Cottonwood               | 1931-  |   |  |                                     |
| Carmon                  | Pr., 1910-S  | O   | 270  |                                     | Dupree                   | 1923-I   | O   | 40   | Pr. S.                              |
| Chelsea                 | 1912-O   | O   | 450  |                                     | Elk Point                | 1914-G   | O   | 540  |                                     |
| Cherokee                | 1903-S   | O   | 700  |                                     | Emond                    | 1931-  |   |  |                                     |
| Claremore               | Pr., 1906-S  | S, O  | 1,310  |                                     | Fairburn                 | 1931-  |   |  |                                     |
| Collinsville            | Pr., 1913-S  | O   | 360  | Pr. S.                              | Faith                    | 1921-O   | O   | 165  |                                     |
| Comanche                | 1900-S   | O   | 380  |                                     | Ft. Pierre               | Pr., 1922-O  | O   | 150  |                                     |
| Cordell                 | 1909-S   | O   | 720  |                                     | Hecla                    | Pr., 1916-S  | O   | 112  |                                     |
| Duncan                  | 1923-O   | O   | 2,150  | C                                   | Howard                   | Pr., 1919-S  | S   | 425  |                                     |
| Edmond                  | 1911-S, G  | G   | 165  | G. P.                               | Isabel                   | 1914-G   | O   | 95   |                                     |
| Fairview                | 1908-G   | S, O  | 750  | Pr. S.                              | Java                     | 1914-O   | O   | 120  |                                     |
| Kaw City                | 1919-O   | O   | 750  |                                     | Madison                  | Pr., 1898-S  | O   | 1,465  |                                     |
| Kingfisher              | 1901-S   | S, T.                                       | 1,400  |                                     | Miller                   | Pr., 1910-S  | S   | 525  |                                     |
| Laverne                 | Pr., 1919-G  | O   | 260  |                                     | Nunda                    | 1931-O   | O   | 180  |                                     |
| Lindsay                 | 1910-S   | O   | 380  |                                     | Onida                    | Pr., 1920-G  | O   | 180  |                                     |
| Mangum                  | Pr., 1917-G  | O   | 1,668  |                                     | Parker                   | 1914-G   | O   | 560  |                                     |
| Marlow                  | 1906-O   | O, G  | 910  |                                     | Pierre                   | Pr., 1900-S  | S   | 800  |                                     |
| Miami                   | Pr., 1910-S  | O   | 1,084  |                                     | Plankinton               | Pr., 1917-G  | O   | 150  |                                     |
| Newkirk                 | 1907-S   | O   | 495  |                                     | Pukwana                  | 1919-O   | O   | 75   |                                     |
| O'Keene                 | 1918-O   | O   | 650  |                                     | Sioux Falls <sup>4</sup> | Pr., 1902-S  | O   | 1,760  | G. P., Pr. S.                       |
| Pawhuska                | 1907-S   | O   | 1,370  | G. P.                               | Tabor                    | 1916-O   | O   | 90   |                                     |
| Perry                   | Pr., 1903-S  | O   | 1,260  |                                     | Tulare                   | 1916-  |   |  |                                     |
| Ponca City              | Pr., 1912-S  | O   | 5,000  |                                     | Tyndall                  | Pr., 1910-G  | O   | 690  |                                     |
| Purcell <sup>4</sup>    | Pr., 1913-S  | O   | 960  |                                     | Vermilion                | Pr., 1915-S  | S, S, T.                                    | 1,100  |                                     |
| Ryan                    | 1910-S   | O   | 315  |                                     | Volin                    | Pr., 1920-O  | S   | 70   |                                     |
| Sallisaw                | 1909-S   | S   | 470  |                                     | Watertown                | 1922-S   | S   | 3,088  | G. P.                               |
| Spiro                   | 1909-S   | S, O  | 602  |                                     | Westington               | Pr., 1913-G  | O   | 540  |                                     |
| Stillwater              | 1896-S   | S, S, T.                                    | 4,015  |                                     | Total                    |  |   | 16,420   |                                     |
| Stillwell               | 1911-S   | S, O  | 655  |                                     | <b>Tennessee</b>         |  |   |  |                                     |
| Stroud                  | 1907-S   | G   | 605  |                                     | Bolivar                  | 1906-S   | O   | 275  |                                     |
| Tahlequah               | Pr., 1921-S  | S, O  | 915  |                                     | Cookeville               | 1905-S   | W   | 2,500  |                                     |
| Tonkawa <sup>4</sup>    | 1910-S   | O   | 1,500  |                                     | Covington                | Pr., 1904-S  | O   | 600  |                                     |
| Wagoner                 | Pr., 1910-S, G                                       | S, O  | 915  |                                     | Dayton <sup>4</sup>      | Pr., 1892-S  | S   | 200  |                                     |
| Waynoka                 | 1912-O   | O   | 500  |                                     | Dickson                  | 1906-S   | O   | 660  |                                     |
| Wetumka                 | 1910-S   | O   | 400  |                                     | Dyersburg                | Pr., 1903-S  | S, S, T.                                    | 6,435  | St. L.                              |
| Wilson                  | 1914-O   | O   | 410  |                                     | Jackson                  | Pr., 1901-S  | S, O  | 850  |                                     |
| Yale                    | 1915-G   | S, O  | 730  |                                     | Lawrenceburg             | 1908-W   | S, W, O                                     | 1,600  |                                     |
| Total                   |  |   | 48,352   |                                     | Milan                    | 1897-S   | S   | 475  |                                     |
| <b>Oregon</b>           |  |   |  |                                     | <b>Texas</b>             |  |   |  |                                     |
| Ashland                 | 1911-W   | W   | 600  | G. P.                               | Bolivar                  | 1906-S   | O   | 275  |                                     |
| Baker                   | 1914-W   | W   | 134  | St. L.                              | Cookeville               | 1905-S   | W   | 2,500  |                                     |
| Bandon                  | Pr., 1921-W  | W   | 435  | G. P.                               | Covington                | Pr., 1904-S  | O   | 600  |                                     |
| Eugene                  | 1909-W   | S, T., W                                    | 24,000   | G. P.                               | Dayton <sup>4</sup>      | Pr., 1892-S  | S   | 200  |                                     |
| Forrest Grove           | Pr., 1909-S  | S, S, T.                                    | 1,100  |                                     | Dickson                  | 1906-S   | O   | 660  |                                     |

| Town                           | Date of Origin and Type of Prime Mover at Origin (1) | Type of Prime Mover as of Dec. 31, 1930 (2) | Total Horse-power Capacity as of Dec. 31, 1930 (3) | Description as of Dec. 31, 1930 (4) | Town                             | Date of Origin and Type of Prime Mover at Origin (1) | Type of Prime Mover as of Dec. 31, 1930 (2) | Total Horse-power Capacity as of Dec. 31, 1930 (3) | Description as of Dec. 31, 1930 (4) |
|--------------------------------|--|---|--|-------------------------------------|----------------------------------|--|---|--|-------------------------------------|
| <b>Tennessee (cont'd)</b>      |  |   |  |                                     | <b>Vermont (cont'd)</b>          |  |   |  |                                     |
| Morristown.....                | Pr., 1898-S  | S. T.                                       | 3,750  | Pr. S.                              | Hardwick.....                    | 1898-W   | W   | 1,000  | G. P.                               |
| Nashville.....                 | 1904-S. T.   | S. T.                                       | 4,690  | St. L.                              | Hyde Park.....                   | 1891-W   | W   | 350  | -----                               |
| Pulaski.....                   | 1891-S   | O   | 780  | Pr. S.                              | Johnson.....                     | 1891-W   | W   | 240  | G. P.                               |
| Somerville.....                | 1899-S   | G. O  | 350  | -----                               | Lyndonville <sup>14</sup> .....  | 1896-W   | W   | 1,030  | G. P.                               |
| Trenton.....                   | Pr., 1912-S  | O   | 450  | -----                               | Morrisville.....                 | 1896-W   | W   | 4,200  | G. P.                               |
| Union City.....                | 1892-S   | S. T.                                       | 2,250  | -----                               | Swanton.....                     | 1888-W   | W   | 2,500  | G. P.                               |
| Total.....                     |  |   | 25,865   |                                     | Total.....                       |  |   | 12,040   |                                     |
| <b>Texas<sup>15</sup></b>      |  |   |  |                                     | <b>Virginia<sup>16</sup></b>     |  |   |  |                                     |
| Austin.....                    | 1891-S   | S. T.                                       | 15,000   | Pr. S.                              | Bedford City.....                | Pr., 1901-W  | W   | 1,300  | -----                               |
| Bowie.....                     | Pr., 1918-G  | O   | 860  | C                                   | Blackstone.....                  | 1927-O   | O   | 780  | Pr. S.                              |
| Brady.....                     | 1914-S. G  | O   | 1,500  | -----                               | Danville.....                    | 1884-S. T.   | S. T.                                       | 9,300  | -----                               |
| Brownfield.....                | 1921-O   | O. G  | 600  | -----                               | Front Royal <sup>17</sup> .....  | 1892-S   | W   | 235  | G. P.                               |
| Brownsville.....               | Pr., 1907-S  | S. T.                                       | 6,722  | -----                               | Harrisonburg <sup>18</sup> ..... | Pr., 1901-W  | S. T.                                       | 2,000  | -----                               |
| Bryan <sup>19</sup> .....      | 1907-P   | O   | 2,395  | -----                               | Manassas.....                    | 1915-S   | S   | 390  | Pr. S.                              |
| Canadian.....                  | Pr., 1915-O  | O   | 730  | C                                   | Martinsville.....                | 1901-W   | W   | 1,000  | G. P.                               |
| Caldwell.....                  | 1913-O   | S   | 1,510  | C                                   | Richmond.....                    | 1910-S. T., W  | S. T., W                                    | 9,170  | G. P., St. L.                       |
| Coleman.....                   | 1906-S   | S   | 560  | C                                   | Virginia.....                    | 1916-O   | O   | 38   | -----                               |
| Commerce <sup>20</sup> .....   | 1909-O   | S   | 660  | -----                               | Total.....                       |  |   | 24,103   |                                     |
| Denton.....                    | Pr., 1905-S  | S. G. O                                     | 2,600  | -----                               | <b>Washington</b>                |  |   |  |                                     |
| Farmersville.....              | 1910-O   | O   | 660  | C                                   | Centralia <sup>21</sup> .....    | Pr., 1891-S  | W   | 6,000  | -----                               |
| Garland.....                   | 1924-O   | O   | 490  | C                                   | Ellensburg.....                  | Pr., 1898-S  | S. T., W                                    | 1,000  | G. P.                               |
| Georgetown.....                | Pr., 1910-S  | S. O  | 1,450  | -----                               | Seattle.....                     | 1901-W   | S. T., W                                    | 232,050  | G. P.                               |
| Granbury.....                  | Pr., 1923-G  | O   | 330  | -----                               | Tacoma <sup>22</sup> .....       | Pr., 1893-P  | S. T., W                                    | 205,500  | G. P.                               |
| Greenville <sup>23</sup> ..... | Pr., 1889-S  | S. S. T.                                    | 3,140  | -----                               | Total.....                       |  |   | 446,550  |                                     |
| Hallettsville.....             | 1891-S   | O   | 480  | -----                               | <b>West Virginia</b>             |  |   |  |                                     |
| Hearne.....                    | Pr., 1912-S  | O   | 540  | -----                               | Phillippi.....                   | 1898-S   | G   | 250  | G. P.                               |
| Livingston.....                | Pr., 1922-O  | O. G  | 550  | C                                   | Ravenswood.....                  | 1904-G   | G   | 75   | G. P.                               |
| Lubbock.....                   | Pr., 1917-O  | O   | 5,200  | C                                   | Total.....                       |  |   | 325  |                                     |
| Mansfield.....                 | 1917-O   | O   | 191  | -----                               | <b>Wisconsin</b>                 |  |   |  |                                     |
| San Augustine.....             | Pr., 1920-O  | O   | 485  | -----                               | Arcadia.....                     | 1903-S   | O   | 240  | -----                               |
| Sanger <sup>24</sup> .....     | 1923-S. O  | O. G  | 495  | -----                               | Argyle.....                      | 1901-W   | O. W  | 213  | -----                               |
| Sequin.....                    | Pr., 1915-S. W                                       | W. O  | 900  | G. P.                               | Barron.....                      | 1898-W   | W. O  | 755  | -----                               |
| Seymour.....                   | 1929-O   | O   | 660  | C                                   | Black River Falls.....           | 1904-W   | W   | 1,072  | G. P.                               |
| Shiner.....                    | Pr., 1910-S  | O   | 610  | -----                               | Brodhead.....                    | Pr., 1913-S. W                                       | S. W  | 680  | G. P.                               |
| Spur.....                      | 1929-O   | O   | 660  | C                                   | Cedarburg.....                   | 1901-S   | O   | 1,200  | -----                               |
| Tesque.....                    | 1929-O   | O   | 540  | C                                   | Elroy <sup>25</sup> .....        | 1891-S   | W   | 360  | -----                               |
| Terrell.....                   | 1909-S   | O   | 1,260  | C                                   | Gresham.....                     | Pr., 1918-W  | W   | 240  | -----                               |
| Timpeon.....                   | Pr., 1922-O  | O   | 380  | -----                               | Hartford.....                    | 1908-S   | S. S. T.                                    | 1,935  | -----                               |
| Tulia.....                     | Pr., 1913-S  | O   | 1,160  | C                                   | Kaukauna.....                    | Pr., 1912-S. W                                       | S. W  | 12,600   | G. P.                               |
| Vernon.....                    | 1922-O   | O   | 1,320  | C                                   | Lake Mills.....                  | Pr., 1911-S  | S   | 170  | G. P.                               |
| Whitesboro.....                | 1922-G   | G   | 485  | Pr. S.                              | Manitowish.....                  | 1904-S. S. T.  | G. S. T.                                    | 12,400   | Fr. S.                              |
| Yoakum.....                    | 1931-  |   |  |                                     | Marshfield.....                  | Pr., 1907-S  | S. S. T.                                    | 3,515  | -----                               |
| Total.....                     |  |   | 54,607   |                                     | Menasha.....                     | 1906-O   | O   | 3,600  | -----                               |
| <b>Utah</b>                    |  |   |  |                                     | Merrillan.....                   | 1913-W   | W. O  | 224  | -----                               |
| Beaver.....                    | 1905-W   | W   | 200  | -----                               | Minong.....                      | 1926-O   | O   | 25   | G. P.                               |
| Blanding.....                  | 1929-O   | O   | 80   | -----                               | Muscoda.....                     | 1907-W   | W   | 220  | -----                               |
| Brigham.....                   | 1903-W   | W   | 1,500  | -----                               | Readstown.....                   | 1919-W   | O. W  | 170  | -----                               |
| Ephraim.....                   | 1906-W   | W   | 310  | G. P.                               | Richland Center.....             | 1904-S   | S. S. T.                                    | 2,125  | -----                               |
| Fairview.....                  | Pr., 1910-W  | W   | 90   | -----                               | River Falls.....                 | 1900-W   | O. W  | 1,305  | -----                               |
| Hyrum.....                     | Pr., 1908-W  | W   | 650  | G. P.                               | Spooner.....                     | 1907-W   | W   | 120  | G. P.                               |
| Kanab.....                     | 1929-O   | O   | 160  | -----                               | Stoughton.....                   | Pr., 1901-S. T., W                                   | W   | 1,000  | G. P.                               |
| Lehi City.....                 | 1927-O   | O   | 260  | -----                               | Waterloo.....                    | 1904-S   | S   | 90   | G. P.                               |
| Logan.....                     | 1904-W   | O. W  | 3,875  | G. P.                               | Total.....                       |  |   | 43,849   |                                     |
| Manti.....                     | Pr., 1910-W  | O. W  | 320  | -----                               | <b>Wyoming</b>                   |  |   |  |                                     |
| Midway.....                    | 1931-W   | W   | 400  | C                                   | Basin.....                       | Pr., 1910-S  | G   | 330  | -----                               |
| Monroe.....                    | Pr., 1907-W  | W   | 200  | -----                               | Chugwater.....                   | 1924-O   | O   | 50   | -----                               |
| Mt. Pleasant.....              | 1913-W   | W. O  | 1,875  | G. P.                               | Dixon.....                       | 1914-O   | O   | 34   | -----                               |
| Murray.....                    | 1913-W   | W   | 380  | G. P.                               | Gillette.....                    | 1915-S   | S   | 450  | G. P.                               |
| Nephi.....                     | 1903-W   | W   | 495  | -----                               | Lusk.....                        | 1915-O   | O   | 540  | -----                               |
| Parowan.....                   | Pr., 1912-W  | W   | 125  | -----                               | Pine Bluff.....                  | 1911-O   | O   | 390  | -----                               |
| Spring City.....               | 1916-W   | W   | 600  | G. P.                               | Wheatland.....                   | 1919-G   | G   | 300  | G. P.                               |
| Springville.....               | 1904-W   | W   |  | -----                               | Total.....                       |  |   | 2,004  |                                     |
| Total.....                     |  |   | 11,470   |                                     |                                  |  |   |  |                                     |
| <b>Vermont</b>                 |  |   |  |                                     |                                  |  |   |  |                                     |
| Barton.....                    | 1896-W   | W   | 900  | G. P.                               |                                  |  |   |  |                                     |
| Burlington <sup>26</sup> ..... | 1901-S. S. T.  | S. T.                                       | 2,400  | -----                               |                                  |  |   |  |                                     |
| Easeburg Falls.....            | Pr., 1898-W  | W   | 310  | -----                               |                                  |  |   |  |                                     |

Summary: Total capacity as of December 31, 1930 of municipally owned generating plants in existence December 31, 1932 amounted to 2,576,881 h. p. divided as follows:

|   |                 |
|---|-----------------|
| Steam engines.....                              | 173,019 h. p.   |
| Steam turbines.....                             | 1,339,818 h. p. |
| Hydro electric.....                             | 730,308 h. p.   |
| Oil engines.....                                | 324,443 h. p.   |
| G. I. engines.....                              | 9,265 h. p.     |
| Other types of internal combustion engines..... | 28 h. p.        |

## Footnotes

- <sup>1</sup> Clarksville changed from purchasing all to generating all of output in 1927.
- <sup>2</sup> Jonesboro serves Nettleton.
- <sup>3</sup> Public Works Plants not included as municipally owned electric light enterprises: East Bay Municipal Utility Distribution, Oakland; Hetch Hetchy Water Supply, San Francisco; Modesto Irrigation District; Turlock Irrigation District; Yosemite National Park; Merced Irrigation District; Escondido Mutual Water Company.
- <sup>4</sup> Anaheim changed from generating to purchasing in 1916 and to generating part and purchasing part of output in 1928.
- <sup>5</sup> Also serves Pacific Palisades and Terminal Island.
- <sup>6</sup> Also serves Stratton.
- <sup>7</sup> Lamar serves May Valley, Big Bend, McClare, Hartment, Milwood, Bristol, Koruman, Wiley, Sugar.
- <sup>8</sup> Fort Meade changed from purchasing to generating output in 1922.
- <sup>9</sup> Lakeland also serves Highland City, Easton Park, Medula, Winston, Griffen, Galloway, Kathleen.
- <sup>10</sup> Wauchula changed from purchasing to generating output in 1922.
- <sup>11</sup> Chicago (Sanitary District) generates for street lighting and other public works only.
- <sup>12</sup> Crawfordsville also serves Alamo, Wallace, Whitesville, Darlington, Waynetown.
- <sup>13</sup> Frankfort also serves Thornton.
- <sup>14</sup> Warren changed from generating all to generating part in 1911, to purchasing all in 1921, and back to generating all in 1926.
- <sup>15</sup> Coggan changed from generating all to purchasing all in 1915 and back to generating all in 1927.
- <sup>16</sup> Greensburg also serves Haviland.
- <sup>17</sup> Kansas City also serves Rosedale.
- <sup>18</sup> Montezuma began as a purchasing establishment in 1920, changed to private ownership in 1927, and began a municipal generating establishment in 1930.
- <sup>19</sup> Alexandria serves Pineville and Tigua.
- <sup>20</sup> Kenner began as purchasing all of output in 1923 and changed to generating in 1926.
- <sup>21</sup> Kennebunk also serves Kennebunkport.
- <sup>22</sup> Reading serves Lynnfield and Wilmington.
- <sup>23</sup> Taunton serves Berkeley and Raynham.
- <sup>24</sup> Hart changed to private ownership in 1912; built a new municipal plant in 1927.
- <sup>25</sup> Baudette also serves Spooner.
- <sup>26</sup> Fairmont began as a purchasing establishment, changed to generating in 1902 with a steam engine.
- <sup>27</sup> Fosston leased its plant to Midland Power Co. for 20 years from 1921.
- <sup>28</sup> Virginia also serves Franklin.
- <sup>29</sup> Plant of the University of Mississippi at University, Miss., not included.
- <sup>30</sup> Chillicothe also serves Meadville.
- <sup>31</sup> Fulton also serves Mokane.
- <sup>32</sup> Harrisonville changed to private ownership in 1921; built a new municipal plant in 1930.
- <sup>33</sup> Montana—Public Works Plants: Indian Affairs Office at Polson and U. S. Reclamation Service at Hot Springs, not included.
- <sup>34</sup> Crete changed to private ownership in 1912 and began municipal ownership again in 1926.
- <sup>35</sup> Hastings also serves Holstein.
- <sup>36</sup> Potter changed to private ownership in 1918; began municipal operation again in 1924.
- <sup>37</sup> Wisner changed from generating to purchasing in 1911 and to generating in 1922.
- <sup>38</sup> Nevada—Mineral County Power System at Hawthorne, not included.
- <sup>39</sup> Lake Placid also serves Newman.
- <sup>40</sup> Benson changed from purchasing to generating in 1920.
- <sup>41</sup> Washington serves Aurora and Vanceboro.
- <sup>42</sup> Bethel changed from purchasing to generating in 1928.
- <sup>43</sup> Waterville changed from purchasing to generating in 1930.
- <sup>44</sup> Purcell also serves Lexington.
- <sup>45</sup> Tonkawa changed to purchasing in 1920 and to generating in 1929.
- <sup>46</sup> Sioux Falls changed to purchasing in 1907 and to generating part in 1915.
- <sup>47</sup> Dayton changed to private ownership in 1904 and back to municipal ownership in 1921.
- <sup>48</sup> Texas—plant of Agricultural and Mechanical College of Texas at College Station, not included.
- <sup>49</sup> Bryan began as a purchasing establishment, changing to generating in 1918.
- <sup>50</sup> Commerce began as a purchasing establishment in 1917, changing to private in 1926; a new municipal plant was built in 1929.
- <sup>51</sup> Greenville also serves Peniel.
- <sup>52</sup> Sanger serves Valley View.
- <sup>53</sup> Burlington changed to purchasing in 1919 and to generating in 1927.
- <sup>54</sup> Lyndonville also serves Burke.
- <sup>55</sup> Virginia—Heat and power plant of Virginia Polytechnic Institute at Blacksburg, not included.
- <sup>56</sup> Front Royal also serves Riverton.
- <sup>57</sup> Harrisonburg also serves Warm Springs.
- <sup>58</sup> Centralia changed from generating to purchasing in 1909 and back to generating in 1930.
- <sup>59</sup> Tacoma began as a purchasing establishment, changing to generating in 1913.
- <sup>60</sup> Elroy changed to purchasing in 1921 and back to generating in 1930.

## Editorial Note

Here for the first time is made public a portion of the data on municipally owned electric establishments in the United States, which the Institute for Economic Research has been collecting and analyzing during the last five years. The plants here listed were those in existence on December 31, 1932, although the facts about generation are for the most part taken as of December 31, 1930. These data have formed the basis for a series of monographs and special articles<sup>1</sup> published under the auspices of the Institute and in the *Journal*, and, pending the completion of these statistical studies, the Institute has followed the policy of not making this list available to any individual or group. Now the data for individual generating plants are made public and the *Journal* proposes to carry in its next issue (November, 1933) similar data for the municipally owned purchasing establishments in existence on December 31, 1932.

The data here listed are presented not without some misgivings as to their absolute accuracy, but with confidence that every effort has been made to check them thoroughly and to make them as nearly accurate as possible, considering the diversity and character of the sources. As far as totals are concerned, the stray errors are thought to be largely compensating, and with reference to the individual establishments it is believed that a minimum of error has been achieved.

These data are presented without further analysis. Previous articles and monographs have pointed out the trends and tendencies revealed by the more general classifications. With the complete list now before them, grouped only geographically for convenience, readers may make their own classifications to suit their own particular purposes.

<sup>1</sup>A complete list of these special studies was published in Paul J. Raver's *Recent Technological Developments and the Municipally Owned Power Plant* (Chicago: Institute for Economic Research, 1932), p. 87. The last study to appear was "Municipal Ownership in the Last Five Years", also by Professor Raver, and printed in the May, 1933 issue of the *Journal* (Vol. IX, pp. 121-134).

# Comments on Legislation and Court Decisions

## Do We Want Scientific Regulation?

WHEN the Supreme Court of the United States upholds the decision of an administrative body which regulates rates and whose method of arriving at the rate-base is in accordance with the principles accepted by economists, there is usually widespread rejoicing. There is a feeling that, gradually at least, sound principles of public utility rate-making are being accepted by the courts. Furthermore, a glance at the names of the members who supported the majority opinion would seem to indicate that the opinions of those whom economists have quoted with favor and approval are beginning to triumph. This, on the surface, is the situation in the decision of the United States Supreme Court upholding the order of the Railroad Commission of California which required the Los Angeles Gas and Electric Corporation to lower rates to consumers of its utility services. The dissenting opinion of Mr. Justice Butler apparently lent further support to the belief that the Court is changing its ways and that it is abandoning its cost-of-reproduction stand in favor of prudent investment. Such optimism is quite unwarranted, however, and a study of the opinion indicates that the Court is as far, if not farther, from reaching a workable solution of the problems of fair return and fair value as it was when the memorable and enigmatic case of *Smyth v. Ames* was decided.

In the Los Angeles Gas and Electric

case,<sup>1</sup> decided by the Railroad Commission of California on November 24, 1930, the authorities summarized the policy of the Commission to date as follows:

"This Commission for many years, in the exercise of its jurisdiction to establish reasonable rates for utilities of this character, has fixed rates to yield upon the historical or actual cost of the property, taking land, however, at current values and depreciation calculated on a sinking fund basis, a return somewhat in excess of the cost of the money invested in the property. When the books have been accurately kept these have been deemed to most accurately reflect [sic] the actual cost of the structural and other property. Sometimes, when these are not reliable it has been found necessary to estimate what it cost to produce the whole or parts of the property historically."<sup>2</sup>

The opinion then cites, in support of this statement of principle, most of the outstanding cases involving the rate-base that have come before it since 1917.<sup>3</sup>

Unfortunately, the opinion of the Commission in the gas case leaves much to be desired, for, despite a concise statement of principle to begin with and an apparent determination to adhere to a principle developed and supported over a period of almost 20 years, the authorities hedged on their final conclusions. To quote:

"Regulatory bodies, such as this commission, naturally prefer to deal with actualities rather than theories and assumptions. Actual cost may be determined with a high

<sup>1</sup> *Re Los Angeles Gas and Electric Corporation*, Investigation on the Commission's own motion, 35 C. R. C. 442 (1930).

<sup>2</sup> *Ibid.*, pp. 445-6.

<sup>3</sup> For a complete analysis of the valuation theory of the California Commission down to 1930, see Pegrum, D. F., *Rate Theories and the California Railroad Commission*, (Berkeley: University of California Press, 1932).



degree of precision; and the effect upon such actual cost of the simple and single assumption that current prices prevailed during the life of the property may likewise be determined with a definiteness sufficient for the purposes of measuring the effect of higher price levels. *Cost with adjustments for changes in price level and allowance for realized depreciation should be and is, for the purposes of this part, taken as a dominant consideration in arriving at a current value of the property herein involved.*"<sup>4</sup>

In presenting the final rate-base the Commission explained the figures as follows:

"Subject to deduction for accrued and realized depreciation in a sum of approximately \$7,650,000, the fair value of the property here involved as a going property with business attached, *giving full effect to the current level of prices* and allowing for any intangible elements of value not fully cared for in the usual and current operating expense allowances but excluding various built up claims of value incident to a reproduction of the property under an assumed reconstruction program as too uncertain and hypothetical to enter into a rate-base figure, did not for the year 1928, using round figures, exceed \$62,500,000, and for the year 1929 \$64,000,000, and for the year 1930 does not exceed \$65,500,000, which figures, for the purposes hereof, are spoken of as rate-base."<sup>5</sup>

The Company challenged the investment theory of the Commission and argued for a fair value based on reproduction cost new with estimates of overheads, costs of financing, promoter's profits and going concern, less accrued depreciation, aggregating a total of \$95,767,351. Just how the Commission arrived at its figures cannot be discovered from the opinion, nor is it possible to determine what weight was given to current prices, nor how current price figures were arrived at.

Commissioner Ezra Decoto dissented from the opinion. Why he disagreed in

this case is hard to say, in view of the fact that he had not done so before. His dissent is based on the following grounds:

"For thirty-two years [since *Smyth v. Ames*] the Supreme Court of the United States has consistently adhered to the principles of valuation laid down by it. In spite of the fact that the pathway is now made reasonably clear by the decisions of the courts, some state commissions seem to be inclined to be a law unto themselves and persist in ignoring the law laid down by the courts.

"The California Commission has to all outward appearance been one of these. It has clung ostensibly and theoretically to the historical rate base. In reality it has given effect to the different elements mentioned by the federal courts including fair value, including going value by allowing a rate return between 8 per cent and 8½ per cent on historical cost if there be added to the historical rate base an amount between 10 per cent and 12½ per cent, the rate base so obtained will approximate fair value including going value [sic]. So, also if there is deducted from 10 per cent to 12½ per cent from a rate of return of 8 per cent or 8½ per cent on an historical cost rate base, it is readily seen that there is an actual return varying from 7 per cent to 7.75 per cent upon fair value including therein a reasonable amount for going value. With this arrangement our public utilities have been content.

"During the last two years this commission has shown a tendency to cut the rate of return upon an historical rate base from between 8 per cent and 8½ per cent to 7 per cent, which reduced the rate of return upon a fair value basis [sic] to 6.12½ per cent and 6.3 per cent. This is confiscation and not regulation."<sup>6</sup>

"Going value is not measured alone by the cost of attaching new business. It is a present element in every paying business over and above physical value. It is an intangible element that can be determined only by the judgment and opinion of men eminently qualified by long experience in the design, construction and operation of gas properties and thoroughly conversant with the particular business."<sup>7</sup>

<sup>4</sup> *Re Los Angeles Gas & Electric Corporation*, 35 C. R. C. 442, 459; italics mine.

<sup>5</sup> *Ibid.*, pp. 461-2; italics mine.

<sup>6</sup> *Ibid.*, pp. 474-5.

<sup>7</sup> *Ibid.*, p. 478.

To the writer's knowledge this is the only decision of the California Commission on record in which there has been a division of opinion on valuation principles. The dissenting commissioner evidently believed that the majority had relied on prudent investment as the basis of valuation. This belief is based upon the final figures adopted by the Commission. Certainly, it was not because of the wording in the opinion, since the Commission apparently tried to cover its tracks by phraseology designed to leave the impression that all factors were carefully considered and weighed. Later on the Supreme Court stated that the Commission had given adequate weight to all factors entering into fair value. Evidently the Court felt, as did Mr. Decoto, that the multiplicity of factors required in previous court decisions should be considered, but contrary to Mr. Decoto, the Court was convinced that these had been evaluated.

Perhaps the opinion of the Commission can be justified on the ground that it was attempting, outwardly at least, to conform to court rulings. Whatever the justification, the outcome is certain to be unfortunate, for regulation in California is now, at a time when it had the opportunity of putting scientific regulation firmly on its feet, in a very uncertain condition and the Commission has abandoned the sound, consistent, and intelligible principles of valuation to which it had adhered since 1911.

The case was carried to the Supreme Court of the United States and that tribunal upheld the State Commission.<sup>8</sup> Obviously, the issue at stake was whether the rates prescribed by the Commission were confiscatory or not. The Court held that they were not. An extensive analysis of the Commission's opinion

was made and approval was given to the method of arriving at valuation by considering all the elements mentioned in *Smyth v. Ames*, including price changes. Thus it appears that the situation remains the same as in the Indianapolis Water case and the opinion of the Court lends support to this conclusion:

"The weight to be given to the actual cost, to historical cost, and to cost of reproduction new, is to be determined in the light of the particular case. *McCardle v. Indianapolis Water Co.*"<sup>9</sup>

If prices had still been rising, the case would probably have been decided against the Commission.

Mr. Justice Butler dissented because he believed the Commission had followed valuation theories contrary to decisions of the Court in confiscation cases; because the Commission arbitrarily excluded certain items from the rate-base; and because it did not state clearly how it arrived at its results. Evidently, Mr. Justice Butler felt that it was the function of the Court to examine in detail all the factors involved in the case. In view of the detailed analysis of the majority opinion, it would seem that the entire Court now adheres to the view that the function of the courts is to review administrative acts in toto.

Thus the whole problem of regulation is in a vicious snarl. One of the few commissions adhering to prudent investment has given up at least its theoretical stand; the courts are still insisting upon an appraisal of the same conglomeration of factors as before; fair return is still manipulated in accordance with the rate-base without any reasonable guide as to the total revenue required; and finally, the functions of

<sup>8</sup> *Los Angeles Gas and Electric Corporation v. Railroad Commission of California, et al*, May 8, 1933, *United*

*States Weekly Law Journal*, vol. I. no. 9, pp. 19-28 (Index pages 207-16).

<sup>9</sup> *Ibid.*, p. 23.

courts and administrative bodies in regulation are more confused than they were 20 years ago.<sup>10</sup> It is extremely unfortunate that this opportunity for clarifying these issues should have been passed up. The uncertainty of the future in

<sup>10</sup> See *The Texas and Pacific Railway Co. et al. v. United States, Interstate Commerce Commission et al.*, *United States Weekly Law Journal*, May 30, 1933, vol. 1, no. 12, pp. 9-18 (Index, pp. 277-86), for court review of administrative acts of the I. C. C.

regard to price changes throws the whole problem of regulation and regulatory machinery wider open than ever. With an extension of federal regulation of business the relations of courts and administrative authorities and the possibilities and scope of government regulation will present an extremely acute issue which our present accomplishments will serve to confuse rather than clarify.

DUDLEY F. PEGRUM

### Regulation of Milk Marketing in Wisconsin

MILK distribution has for a long time been considered an activity which could readily be subjected to price regulation. The relatively high profits made in milk distribution in the years 1930 and 1931, combined with the reduction in prices paid farmers and general distress of farmers in those years, brought the movement for price regulation to a head. Regulatory laws were enacted in Wisconsin and New York in April, 1933. In Wisconsin the legislation was the outgrowth of events in the Milwaukee milk market.

The Milwaukee fluid milk market has been subject to regulation by the Wisconsin Department of Agriculture and Markets since November 26, 1932. Prior to April 8, 1933, when the Caldwell Act<sup>1</sup> was passed, there was no specific power in the Department to engage in more than incidental regulation of milk marketing. Orders prior to this act were issued under authority of a general statute on fair and unfair methods of competition.

The regulation of the Milwaukee market was instituted when the collective bargaining arrangements between dealers and producers, arrangements which

had been in effect for many years, began to break down. Under the bargaining plan adopted by the Milwaukee milk dealers and the Milwaukee Milk Producers' Association in 1922, a "two-price" plan of buying milk was adopted as a basis for dealing between the dealers and producers. Under this plan a relatively high price was paid the farmer for that milk which was sold in its natural state as bottled milk and another lower price was paid for that portion of the milk commonly called surplus which finds its way into cottage cheese, skim milk powder, sweetened condensed skim milk, and so forth.

Milk for city milk markets must meet more exacting requirements than milk going into manufactured products. Barns must be inspected, milk houses must be maintained, with the result that normally there must be a price premium to the farmer to induce him to produce for the city bottled-milk market. However, fluctuations in the demand for milk and more marked fluctuations in production make it necessary to have a "reserve" supply which is termed "surplus," and this surplus must be processed in competition with lower cost milk not required to meet the standards of bottled milk. To prevent the surplus milk,

<sup>1</sup> Chapter 64, Laws of 1933, Section 99.165 of the Statutes.

which is a substantial quantity at certain seasons of the year, from disturbing the market for bottled milk, the two-price plan was devised.

The essential idea in the two-price plan is to isolate the bottled from the surplus milk. The milk going into bottles is paid for by the dealers at the fluid price, and that which is surplus is paid for at a lower price to compare with the price of milk at creameries and cheese factories and other processing plants. The plan has the virtue of insuring a steady supply of milk for bottled use and at the same time gives the producer an outlet for all of his milk, including seasonal surplus, at the same terminal. All the producers' milk goes to the same market and that percentage which can be sold as bottled milk is paid for at the fluid price and that percentage which must be processed is paid for at the surplus rate.

Under the plan adopted in 1922, it was provided that the price for fluid milk should be determined each month at a conference of dealers and agents of the Producers' Association. The manufactured milk price was determined by a formula relating it to the price of butter, to the price of skim milk for manufacture into skim milk powder, sweetened condensed skim milk, and cottage cheese. The dealers agreed to take all the milk produced in the territory logically tributary to the Milwaukee market.

The actual yield to the producer for all his milk was a composite of the fluid price and manufactured price, which composite, or average price, was dependent on the relative proportion of bottled milk sales and other sales in the dealer's total sales.

Bargaining under the two-price plan continued until an acute situation developed in the autumn of 1932. The retail price of milk was declining without

proportional declines in the price paid producers for fluid milk, with the result that the profit to be made by distributors on fluid milk sales declined to practically nothing. At the same time the surplus or manufactured price declined to a point where dealers who could use the surplus in the manufacture of ice cream and in sales of cream (which was not classified as a bottled product) were able to make a substantial profit on this part of their operations.

Small dealers selling primarily bottled milk and without facilities for handling a large amount of surplus protested to the Producers' Association and to the other dealers that they could not pay the high fluid price at the existing retail prices for bottled milk and these dealers went on a one-price system of buying milk. Whereas the fluid price under the two-price plan was \$1.75 and the surplus price \$.72, with a composite price of about \$1.22, the small dealers paid the producer about \$1.35, which meant a higher return to the producer than under the two-price plan. Since the small dealers were paying only \$1.35 instead of \$1.75 for milk which went into bottles, they were able to undersell the companies buying on the two-price plan.

As a result of the retail price-cutting by the dealers not conforming to the buying plan, the dealers who did buy on the plan lost volume. The two-price plan had been a protection to the retail price of milk as long as the plan was adhered to, but, when some competitors refused to buy on that plan, the retail price started to fall and this undermined the plan itself. The high fluid price could be paid only as long as practically all dealers paid it. The result was that the dealers buying on the plan served an ultimatum on the Producers' Association that unless all dealers bought on the plan, the two-price system could not continue.



The Producers' Association tried, with the help of the Department of Agriculture and Markets, to have all dealers buy on the two-price plan. The small dealers alleged that they could not exist on the plan because it favored large dealers who could profit by the low surplus price, but established a prohibitive fluid price for dealers whose volume lay in the sale of bottled milk. During the discussions the small dealers, on the one hand, charged "corporation control" and, on the other hand, the price-cutters were dubbed "chisellers" and "wild-catters." The dealers buying on the two-price plan stated that they could not carry the responsibility for taking the surplus alone. They alleged that the dealers buying on the one-price plan would simply refuse to take the surplus milk when it became a burden to them, leaving the producer to dump his surplus milk where best he could. The higher composite price paid by the smaller dealers was accounted for by the two-price dealers as a result of freedom from the burden of taking the surplus the year round.

Faced with the breakdown of the conference plan between the Milwaukee Milk Producers' Association and the Milwaukee milk dealers, the Producers' Association appealed to the Department of Agriculture and Markets for aid. Specifically, the Department was asked to hold a general hearing to consider whether failure of a minority of dealers to conform to a buying plan, approved by a majority of dealers buying a preponderant amount of the milk, could be considered an unfair trade practice under Section 99.14, Wisconsin Statutes,

relating to fair and unfair trade practices and methods of competition.<sup>2</sup>

After a hearing, the Commissioners decided that under the unfair competition statute they could properly prescribe the two-price plan as a method of bargaining, which should be observed by all parties in the market, and a preliminary order to that effect was issued November 14, 1932. As a basis for the order the Department found (1) a need for a constant flow of milk to the city milk market, (2) the existence of a reasonable retail price for milk, (3) danger of irreparable injury to the dairy industry of the Milwaukee Milk Shed and the State of Wisconsin if the bargaining arrangement failed, and (4) necessity for an orderly plan of milk marketing. The most material part of the order for purposes of this discussion reads:

"It is hereby ordered, That all milk dealers buying milk for resale in the City of Milwaukee cease and desist from buying milk on any plan other than that substantially in accord with the plan heretofore set forth [the two-price plan] and adopted by the producers and dealers contracting for not less than 95 per cent of the milk bought for this market and at the prices so agreed upon pursuant to such plan."

When this order was issued the fluid price was \$1.75 and the manufactured price \$.72. After the order was issued, the dealers in conference agreed on a price of \$1.60 for fluid milk and \$1.00 for manufactured milk, a substantial reduction of the spread between the two prices and a concession to the smaller distributors.

The preliminary order was contested by a group of farmers selling to one of the smaller distributors as threatening

general orders forbidding methods of competition in business or trade practices in business which are determined by the department to be unfair. The department, after public hearing, may issue general orders prescribing methods of competition in business or trade practices in business which are determined by the department to be fair."

<sup>2</sup> The pertinent part of section 99.14 reads:

"(1) Methods of competition in business and trade practices in business shall be fair. Unfair methods of competition in business and unfair trade practices in business are hereby prohibited.

"(2) The department, after public hearing, may issue

them with loss of a market for their milk through interference with the business of the dairy. Their petition for an injunction was denied and the case dismissed on procedural grounds not going to the merits of the case.

Before issuing a final order the Department obtained an opinion from the Attorney General regarding its authority to issue such an order under the unfair competition law. The Attorney General took a very broad view of the unfair competition law, extending its application beyond the sphere of practices normally considered unfair. The following statement indicates the interpretation adopted:

"Is not a method of competition which has the inevitable result either further to deflate at this time the state's most basic industry or to eliminate at this time competition in the distribution of a necessity of life in the state's metropolis, an 'unfair method of competition' and an 'unfair trade practice'? Is it not 'unfair' for a few distributors, handling perhaps less than five per cent of the milk in the Milwaukee market, to use methods and practices that, in these times of economic crisis, in business and in agriculture, inevitably spell the ruin of other distributors handling a much larger proportion of the product, or the further ruin of the farmers?"

After receiving this opinion, a permanent order along the lines of the first was issued. On petition of one of the smaller dairies the Department held a rehearing on January 27, 1933, as a consequence of which it issued an amended order on February 4, 1933. The amended order fixed wholesale and retail prices of milk in order to prevent a price war with the probable result of eliminating smaller dealers. With the producer prices fixed by the Department order, there appeared the danger of retail price cuts to a point where the margin on fluid milk would be eliminated and the dealers handling primarily fluid

milk would be ruined. On the other hand, companies processing milk would have this branch of their operations to carry them through. Subsequent amendments on March 6, 1933 and March 30, 1933 did not change the principle or expand the scope of the order.

The final order of the Department, as amended on February 4, 1933, was challenged by the Lincoln Dairy Company, one of the smaller distributors, in an action to enjoin the Commissioners from enforcing the order. The complaint alleged in substance that, by requiring the Lincoln Dairy Company to desist from buying on a one-price plan and from selling at a cut price, the order destroyed the business of the Company and confiscated its property. It was contended in the complaint that the Department had no authority to prescribe the purchase or sale price of milk or method of doing business.

This action was dropped as a result of an informal agreement among Milwaukee distributors and the Governor's office on March 28, 1933. As a result of this meeting, an amended order was issued making some changes in the prices in effect, but the substance of the order remained as before. The net result of all the proceedings was that the Milwaukee milk market was subject to price regulation by the Department for a period of five months under a statute formerly confined in its application to the prevention of practices involving fraud, deception, or tending to eliminate competition.

To remove doubt as to the power of the Department to regulate buying and selling terms for city milk markets, the Caldwell law was enacted. Subsection (3) of this law provides:

"(a) The Commission shall have jurisdiction upon its own initiative, or upon complaint in writing, to inquire into any matter relating to the supply, distribution or sale of milk or

cream in cities, villages and towns to which this section is applicable.

"(b) If in any such inquiry the commission shall find that a public emergency exists, whereby the milk supply in any such cities, villages, and towns is likely to be interrupted or impaired in quality to an extent affecting the public health or convenience, or whereby the distribution, sale, or disposal is subject to discriminatory, unfair, or unreasonable methods of competition, resulting in unjust or unreasonable prices to the producer or jeopardizing payment for his product, or the distribution, sale, or disposal is subject to practices which will eliminate or tend to eliminate competition therein, then the commission may, after notice and hearing, as provided in section 99.24, make general or special orders, prohibiting unlawful practices, and, for temporary emergency purposes.

"1. Prescribing terms and conditions upon which milk or cream may be purchased, received, or handled.

"2. Prescribing or establishing, from time to time, and when necessary to the welfare of producers and consumers of milk or cream, and of the public, temporary schedules of prices at which milk or cream shall be bought and sold at wholesale and retail or either, subject to the requirement that all such prices shall be just and reasonable."

These provisions were made retroactive to validate any order of the Commission made after November 1, 1932, thus validating orders issued under the unfair competition law.

After the passage of the Caldwell law, the Department withdrew its order relating to the Milwaukee market issued under the unfair competition law and issued a similar order under the authority given it in the new law; so that the regulation of the Milwaukee market has continued as it was prior to passage of the law. Orders have also been issued in the cities of Madison, Janesville, and Kenosha.

The constitutionality of the Caldwell law was challenged in the case of *Gladstone Dairy, Inc. v. Charles L. Hill, et al.*, decided by the Circuit Court of Dane

County, June 27, 1933. The Gladstone Dairy denied the existence of any emergency affecting public health or morals and alleged that milk prices were not properly the subject of regulation by the Legislature. In open court, citing *Wolff Co. v. Industrial Court*, 262 U. S. 522, 535 (1922); *Munn v. Illinois*, 94 U. S. 113 (1877); *Ratcliff v. Wichita Union Stockyard Co.*, 74 Kan. 1 (1906); *Tallahassee Oil and Fertilizer Co. v. Holloway*, 200 Ala. 492 (1917); *Chickasha Cotton Oil Co. v. Cotton County Gin Co.*, 40 Fed. (2nd) 846 (1930); *Block v. Hirsch*, 256 U. S. 135 (1921), the court held the law constitutional and valid. The decision was placed primarily on the ground of the great importance of the milk industry to the State of Wisconsin and the present distress of the farmers in the State as a class. The court appeared to rely largely on the words of Mr. Chief Justice Taft in *Wolff Co. v. Industrial Court*, setting forth the types of businesses clothed with a public interest justifying some public regulation. In that case, the court set forth three classes of business properly subject to regulation:

- (1) Businesses operating under public grant of authority;
- (2) Businesses historically regarded as affected with public interest, such as keepers of inns, cabs and grist mills;
- (3) "Businesses which though not public at their inception may be fairly said to have risen to be such and have become subject in consequence to some government regulation. They have come to hold such a peculiar relation to the public that this is superimposed upon them. In the language of the cases, the owner by devoting his business to the public use, in effect grants the public an interest in that use and subjects himself to public regulation to the extent of that interest although the property continues to belong to its private owner and to be entitled to protection accordingly."

The Circuit Court indicated that the Caldwell law was a legitimate exercise of legislative authority under the third classification.

Attorneys for the Gladstone Dairy have served notice that the decision of the Circuit Court will be appealed so that, from present indications, the Supreme Court will be asked to pass upon the validity of the Caldwell Law.<sup>3</sup>

Supplementing the Caldwell law, a licensing law was passed late in the session and became a law on July 13, 1933.<sup>4</sup> This law provides that:

<sup>3</sup> The New York law which gives the Milk Control Board power to fix minimum wholesale and retail prices of milk and, in its discretion, maximum prices also, has recently been upheld by the New York Court of Appeals in the case of *People of New York v. Leo Nebbia*, decided July 11, 1933.

<sup>4</sup> Chapter 391, Laws of 1933, Section 99.165 of the Statutes.

<sup>5</sup> A very comprehensive bill authorizing state regulation of the entire milk industry including condensery products, butter and cheese, was passed by the State Senate, but failed of passage in the Assembly. The bill was an elaboration of the New York regulatory law (Senate Bill, 155).

"(2) After July 1, 1933, no dealer shall at any time engage in the business of buying and selling milk or cream (whether produced by such dealer or purchased from producers) at wholesale, or at wholesale and retail, or at retail, within the limits of a city or village or town adjacent thereto, without a license therefore issued by the department of agriculture and markets as herein provided, and valid and effective at such time. Provided, however, that no original producer and owner of milk who sells not to exceed ten quarts daily in quart containers shall require a license to sell his own milk in any town, city or village in Wisconsin."

The Department may, after hearing, order the suspension or revocation of a license for violation by a licensee of the food and drug law or the marketing law of which the Caldwell law is now a part. The law provides for rehearing on orders of suspension or revocation and for appeal to the circuit court of Dane County, if such order is upheld on rehearing. On appeal to the court the findings of fact of the Department are conclusive in the absence of fraud.<sup>5</sup>

FRANCIS A. STATEN



## Book Reviews

Vance, Rupert B. **HUMAN GEOGRAPHY OF THE SOUTH: A STUDY IN REGIONAL RESOURCES AND HUMAN ADEQUACY.** Chapel Hill, N. C.: University of North Carolina Press, 1932. pp. xiv, 596. \$4.

I doubt whether anyone but a sociologist would have had the hardihood to write this book. Its bibliography is 67 pages long, and ranges from Fenneman on physiography to McCollum on vitamins; from LePlay or Geddes on the concept of the region to the United States Department of Agriculture on the marketing and distribution of onions. Dr. Vance's range is colossal. His detail is almost overpowering. If the book had been half as long, it would have been twice as effective. While I am not an expert in any of 20 fields which Dr. Vance has invaded, I feel safe in inferring from his elaborate documentation that there are few novel facts in the book. There is evident, too, a certain lack of discrimination which I seem to observe occasionally in sociologists when they venture away from home. Everything is grist to Dr. Vance's mill; as much space is devoted to emphasizing the obvious as to revealing a hitherto unsuspected relationship.

All this is by way of preface to saying that Dr. Vance has written a brilliant book, and an essential one. If our economic planning is to amount to anything, every part of our country will have to be made the subject of such a study. And when I take a dig at Dr. Vance for his boldness as a sociologist, I must confess in the same breath that I don't know any other kind of scientist better qualified to do what Dr. Vance has undertaken.

Dr. Vance shares with his preceptor, Dr. Howard Odum, the passion to help in the renaissance of the South. What is "the South"? It is a series of regions. If we define a region as an area in which there is present in a more or less constant way an element which is not so present in adjacent areas, it is clear that there will be as many types of regions as elements. The element may be geological, physiographic, biotic, political, cultural, agricultural, dietetic, pathological; it may deal with economic organization, distribution of flora and fauna, incidence of disease, social habits. The re-

gional pattern of each of these elements may differ; most of them will differ. I take it that the concept of regionalism becomes fruitful when we can find one area which is a region in terms of a number of significant elements of social interest.

Now, one of our difficulties has been that each specialist, considering his problem specially, has set up his regions, but nobody has tried to superimpose these special studies to see whether, between them all, they give us any basis for social planning. It is this which Dr. Vance has boldly attempted. After 440 pages of presenting the findings of the several specialists (among them largely the agricultural economists, with chapter and verse citation of this *Journal*), Dr. Vance is prepared to discuss *The Structure of a Regional Economy*, "in the light of a theory of resources, human energy, cultural equipment, and economic organization." This leads to his last chapter, "Reconstructing the Region." The tools of reconstruction will range from the introduction of *lespedeza sricea* to city planning; from flood control to publishing newspapers for mill workers.

It is studies such as this which alone can give significance to President Roosevelt's proposal for a Tennessee Valley authority. Who will make similar reports or the other parts of our country?

CHARLES S. ASCHER

Nash, L. R. **PUBLIC UTILITY RATE STRUCTURES.** New York: McGraw-Hill Book Co., Inc., 1933. pp. xi, 379. \$4.

*Public Utility Rate Structures*, the latest book by Luther R. Nash, is a splendid contribution to the literature of public utility regulation.

It opens with a brief but comprehensive chapter which brings out the historical development of modern utility rates, the characteristics of utility service and investment, and the difference between non-utility and utility merchandising and service.

This is followed by an excellent discussion of the basic differences between different classes of customers, certain special features controlling classification, and an explanation of all the various forms of rates that have been developed.

Mr. Nash has impartially presented the

advantages and disadvantages of the theoretical basis of these various rate forms.

Following these introductory chapters are several chapters devoted to a much more detailed discussion of the problems connected with the making of rates for electric service, gas service, local transportation, communication, water service, and street lighting. In dealing with each of these services the author has developed the special problems which are likely to be encountered, the various classifications, and the rate forms that are applicable to each classification.

Special rate forms applicable to each utility are fully discussed, as, for example, the thermal unit in the gas industry is described, and the desirability of such a form of rate is clearly brought out.

The chapter on local transportation rates deals almost wholly with modern problems which have been developed since 1920, the peak year of street railway traffic. The rate forms here described are different from those of the other utilities and the discussion is of special value to all interested in the difficult problem of public transportation.

The more extended treatment in these chapters permits the laying of emphasis on such phases of rate-making as hydrant rentals in the chapter on water rates, and on the necessity for making adequate provision for the very large obsolescence in street lighting equipment.

The entire discussion of rates for the different classes of utility service stresses the necessity for treating each rate-fixing undertaking as an independent problem, giving full consideration to all local conditions which have a bearing on the form and amount of rates which are fair and reasonable for that particular community and which may not prevail in other nearby cities.

One of the most valuable chapters is the one dealing with so-called promotional rates. The discussion in the earlier chapters is expanded, the various forms of such rates are given with examples, and a number of court and commission decisions are quoted to support the equitable nature of this kind of rate.

The chapters on rate design and plotting and on cost analysis are full and careful discussions and cover in a most satisfactory manner the procedure in the determination of proper rates for the different kinds of utilities and under the many different con-

ditions that prevail in different properties in the same utility. The last chapter discusses economic factors in rate-making and this, with the two chapters just referred to, brings out clearly some of the controversial features of the subject and emphasizes strongly the fact that rate-making is "not an exact scientific procedure but a skillful balancing of conflicting objectives, a curbing of tendencies towards technical complications and an avoidance of undue yielding to the public urge for the simplicity prevailing in other commercial transactions."

The book is up-to-date, full, and complete. It is impartial and free from prejudice. It contains many references to supplementary reading and citations of utility cases decided by courts and commissions. It should be in the library of every man interested in any phase of public utility regulation.

HENRY E. RIGGS

Lambert, C. F. RESULTS OF MUNICIPAL LIGHTING PLANTS: THE ANSWER TO THE CITY'S FINANCIAL PROBLEMS. *Kansas City: Burns & McDonnell Engineering Co., 1933. pp. 87. \$1.*

This pamphlet purports to give the type and capacity of prime movers, the value and indebtedness of the physical plant, and the rates and income statements for 222 municipally owned lighting plants "taken at random" from "over two thousand municipalities," furnishing light, heat and power in the United States. Of the plants included in the survey, 98 operate with steam power, 62 with Diesel engines, and the balance is made up of 30 establishments purchasing power at wholesale, 16 purchasing part and generating part, and 16 using more than one type of prime mover in generation.

The pamphlet contains tables comparing (1) the revenues per kilowatt hour of the 222 municipal plants with averages (municipal and private) in the United States; (2) monthly costs per residence consumer and per commercial consumer in the 222 towns analyzed, and (3) electric light statistics for the entire United States from the *N. E. L. A. Bulletin*. Two charts are included: (1) the relative values of electric light plants of the United States, 1913-1932, using 1913 as 100 (source of data not given), and (2) residential electric rates for the 15 municipal plants in cities over 50,000 population.

PAUL JEROME RAVEN